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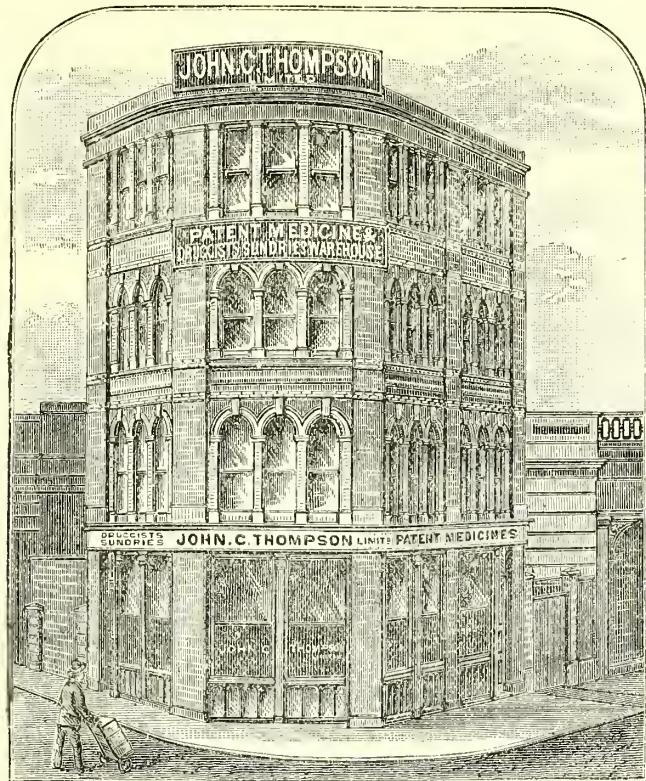
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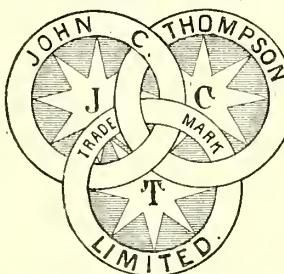


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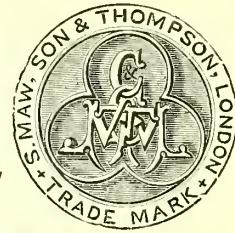
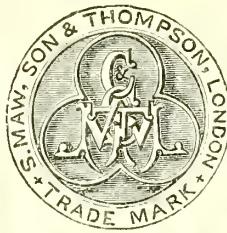
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## MINOR EXAMINATION, London, October, 1882.

From Westminster College alone, 18. From all other Sources combined, 11.

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| " R. D. MILLWARD, |                   |
| " D. REES,        |                   |
| " T. HUDSON,      |                   |
| " A. PELL,        |                   |
| " R. W. REES,     |                   |
| " F. G. TREHARNE, |                   |
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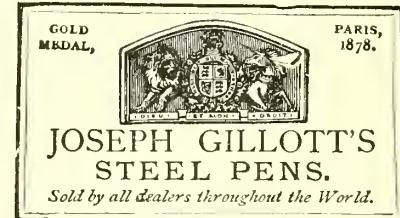
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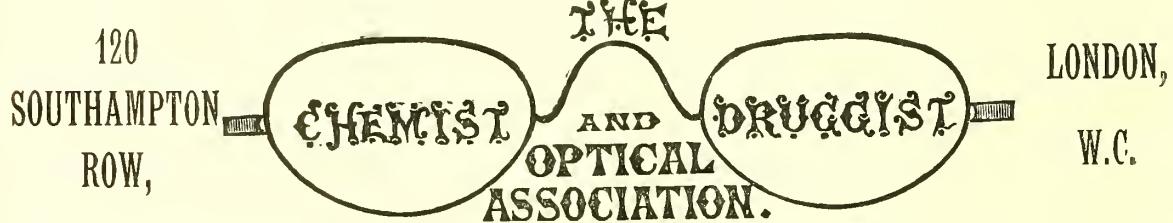
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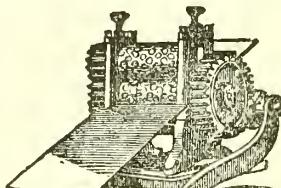
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The rapidly increasing demand for Corley's Green Gum Plasters is a guarantee that its marvellous powers are becoming known and appreciated by all. This cure will be found to be exactly what it is represented, relieving immediately the most excruciating pain, and with a few applications working a permanent cure. It has never been known to fail where the patient has followed the directions, and used it faithfully. It does not burn nor blister, nor has it any injurious effects; the smallest child can use it with the utmost impunity. Give it a trial. It has never been known to fail; why should it fail in your case?

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"Clear as crystal," "stronger than glass," "tough as leather."

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Sold by all the Wholesale Druggists, Sundriesmen, and Medicine Vendors.

Used and recommended by several eminent Physicians.

A PAINLESS & UNFAILING REMEDY.

This preparation has the advantage over similar preparations in being quite painless. After 2- or 3 applications the Corn—which will be destroyed—can be easily picked out, leaving the part healthy and free from pain.

It is put up in cases containing a Bottle of Paint, Adhesive Plaster, and Camel-hair Pencil, fixed in dozens, on neatly-bronzed show-cards, with counter bills.

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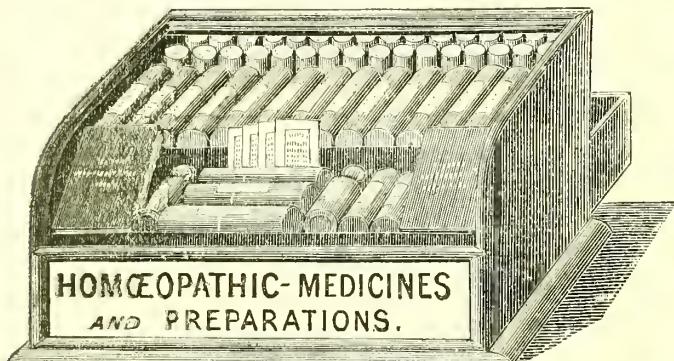
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**£4 4s. OD.**  
AGENTS' SHOW CASE.

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Price Lists of Medicines put up for Sale  
and in Bulk on application.

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MANUFACTURERS OF HOMOEOPATHIC MEDICINES,  
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Have the Largest Sale of any Medicine in the World.

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## CHEST PROTECTORS. Red Felt. Standard Sizes.

|            | No. 0 | 1    | 2    | 3    | 4    | 5    |            |
|------------|-------|------|------|------|------|------|------------|
| SINGLE ... | 6/0   | 7/6  | 9/6  | 11/6 | 14/0 | 20/0 | per dozen. |
| DOUBLE ... |       | 17/0 | 22/6 | 28/0 | 34/0 | 45/0 | "          |

## PURE WHITE HARE SKINS. Very Saleable.

Per dozen, 21/0, 24/0.

## SATIN CHEST PROTECTORS, QUILTED.

18/0, 21/0, 24/0.

## RESPIRATORS. 27 Patterns. From 8/ to 72/ per dozen.

A Detailed List on application.

## The NEW ANTISEPTIC INHALER, per dozen, 16/. Nickel Plated.

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For Special List, see CHEMIST AND DRUGGIST DIARY.

## PANELLED GREEN GLASS BOTTLES.

Suitable for Cough Mixtures.

Per gross, 2 oz., 8/6; 3 oz., 9/; 4 oz., 9/6.  
Name Plate free for 6 gross of a size.

## POMADE BOTTLE,

With Screw, Nickel Plated Tops.

|                  |     |           |     |     |      |
|------------------|-----|-----------|-----|-----|------|
| Incorrodible ... | ... | 1         | 2   | 3   | 4 oz |
|                  |     | Per dozen | 1/5 | 2/6 | 2/9  |

Honey Jars. Per dozen, 3/.

## THROAT SPRAY,

The only one made to sell at a low price. The lower part is of glass only.

Per dozen, 27/. Sells at 3/6.

Double Action, with Vulcanite Mount, per dozen, 60/.

## THERMOMETERS.

|   |     |     |                      |
|---|-----|-----|----------------------|
| Ebonized (six on a Card) ...                | ... | ... | Per dozen, 8/6, 16/0 |
| Oxford shape ...                            | ... | ... | 8/6                  |
| Boxwood ...                                 | ... | ... | 8/6, 12/0            |
| Boxwood, registering ...                    | ... | ... | 16/0                 |
| Clinical, with all the latest improvements. |     |     | Each, 6/0, 7/6       |
| Self-registering ...                        | ... | ... | 7/6 and 15/0         |
| Storm Glass Thermometer                     | ... | ... | Each, 3/6            |
| Tin Bath ...                                | ... | ... | Per dozen, 21/0      |
| Tin Bath, Dr. Forbes' Specification         | ... | ... | 21/0                 |
| Glass, scale enclosed in the tube, in case  | ... | ... | 8/0                  |
| Ditto, in wooden frame ...                  | ... | ... | 24/0                 |

## THE SHILLING MEDICINE CASE.

Graduated Tumbler in leather case, per dozen, 9/0.

The Cheapest Article in the Trade.

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Self-adjusting and ventilating. Very light.

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10 PER CENT. FOR PROMPT CASH.

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(B. & T.'s) White and Pink, Transparent.

|                                  |     |     |                |
|----------------------------------|-----|-----|----------------|
| In boxes of one dozen ...        | ... | ... | Per dozen, 4/0 |
| Opaque, in Stoppered Bottles ... | ... | ... | " 8/0          |

## POROUS PLASTERS.

(2 dozen in a box.)

|                                     |     |               |
|-------------------------------------|-----|---------------|
| Poor Man's, spread with Olibanum    | ... | Per dozen 2/0 |
| Chest Plasters (Roborons)           | ... | " 2/0         |
| Ditto (Belladon or Capsicum)        | ... | " 2/6         |
| Tie Plasters, for the Facial Nerves | ... | " 0/8         |

## SPREAD PLASTERS (Balsamic or Roborons.)

|                          | 1d.           | 2d. | 3d. | 4d.                         | 6d. | 8d. |
|--------------------------|---------------|-----|-----|-----------------------------|-----|-----|
| Heart Shape.             | Per dozen 0/8 | 1/4 | 2/0 | 2/8                         | 4/0 | 6/0 |
| Long "                   | 0/8           | 1/4 | 2/0 | 2/8                         | 4/0 | 6/0 |
| Saddle "                 | —             | —   | —   | —                           | 4/0 | 6/0 |
| Oval "                   | —             | —   | —   | 2/8                         | 4/0 | —   |
| Breast (Plumbi)          | —             | —   | —   | 2/8                         | 4/0 | —   |
| Poor Man's, on Paper ... | ...           | ... | ... | Per gross, 9/0; cloth, 16/0 |     |     |

## MEDICAL JAPANESE "CURL" PAPER

AS SOFT AS SILK.

500 Sheets in a packet ... ... ... Per dozen, 4/0

## DR. SYMES' PILL COATER.

Will Coat from a dozen to  $\frac{1}{4}$  lb. of Pills, equal to those of the best makers. Price 4/6 each.

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## THE LITTLE FOLKS PERFUME.

Three in a box to sell at 1/6 per box.

Each box contains specimens of various Foreign Stamps.

## FLOATING LIGHT, with Reflecting Float.

In Boxes containing 60 Lights, 4/0; 120 Lights, 8/0 per dozen  
Only need an Introduction to create a demand.

# ALLEN & HANBURY'S "PERFECTED" COD LIVER OIL.

*The "Perfected" Cod Liver Oil is prepared by an altogether new and special process.*

The following advantages are claimed for it, viz., that—It is free from nauseous taste and smell. It does not produce offensive eructations or sickness. It is consequently digested without inconvenience, and can be taken by many who cannot bear ordinary cod liver oil, even of the finest quality. It presents the medicinal and nutritive qualities of the remedy in their highest degree of excellence.

Sold only in Imperial Quarter-Pints, 1/4, per dozen, 12/-; Half-Pints, 2/6, per dozen, 23/-; Pints, 4/9, per dozen, 44/-; Quarts, 9/-, per dozen, 80/-.

"It is so pure and tasteless that when oil will agree at all this is sure to do so,"—Horace Dobell, M.D.

"Has almost the delicacy of salad oil,"—*British Medical Journal*.

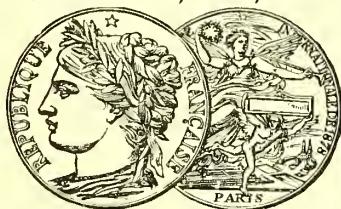
"It is as nearly tasteless as cod liver oil can be. Many persons to whom the taste of the oil has hitherto been an obstacle will doubtless be able to take it,"—*Lancet*.

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"A pharmaceutical product which is in its way unrivalled,"—*London Medical Record*.

"A great boon to get such an oil. It well deserves the name of Perfected,"—*Practitioner*.

SILVER MEDAL, PARIS, 1878.



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PREPARED BY PATENT PROCESS.

A. & H.



MARK.

A.D. 1715.

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|-----------------------------|---------------------|----------------|--------------|--------------|
| ANISEED LIQUORICE .....     | 30/-                | 1-lb.<br>size. | 1/-<br>size. | 6d.<br>size. |
| BLACK CURRANT .....         | "                   | "              | "            | "            |
| DELECTABLE .....            | "                   | "              | "            | "            |
| EXTRACT OF MALT .....       | "                   | "              | "            | "            |
| GLYCERINE .....             | "                   | "              | "            | "            |
| LICHEN .....                | 2/-                 | "              | "            | "            |
| LIQUORICE .....             | "                   | "              | "            | "            |
| MAGNUM BONUM .....          | "                   | "              | "            | "            |
| PECTORALE .....             | PER LB.,            | "              | "            | "            |
| PINE (Pâte de Jujube) ..... | "                   | "              | "            | "            |
| RASPBERRY .....             | "                   | "              | "            | "            |
| ROSE .....                  | or in tin<br>boxes. | "              | "            | "            |
| TAMARIND .....              | "                   | "              | "            | "            |
| VIOLET .....                | "                   | "              | "            | "            |
| VOICE .....                 | "                   | "              | "            | "            |

All the above tins are neatly wrapped ready for sale. The One Pound Tins are returnable at 6/- per doz.

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| GUIMAUVE, cut into Cubes ..... | 2/6<br>PER LB. | 42/- | 8/- | not<br>supplied               |
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Frames fitted with glass shelves and glass dishes to display jujubes. Price 42/- each; size, 21 in. high, 10 in. broad, and 8 in. deep.

New and handsome Show Cards and Handbills on application.

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Are made of the best materials; perfectly protected; entirely and quickly soluble; coated while soft; not subjected to the injurious effects of heat in the process of manufacture. The mass is worked to the highest possible degree of uniform intermixture, and subdivided with scrupulous exactness. The coating is an inert, tasteless, and odourless compound, which is so transparent, colourless, and thin, that the distinctive colour of each pill is revealed through the coat. No sub-coating is used. The solubility of the coating is not impaired by age. All the official pills, as well as any others ordered by the Medical Profession, can be furnished in this form. They can be implicitly relied upon in every respect. The coating, while thoroughly protecting the pill, will not be found to in any way interfere with the action of the drug, and those who have found sugar or chalk-coated pills objectionable, owing to the liability of the coating becoming insoluble by age, will find our coating to dissolve as readily after many years as when first prepared. It, moreover, does not form a hard tough shell, as is the case with the ordinary gelatine coating. We claim and believe our Coated Pills to be nearer perfection than any similar goods that have been offered, and guarantee the pills to be as quickly effective as any uncoated pills that can be made.

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A Book of about 400 Formulae, containing doses, also descriptive circulars, price lists, and samples, can be had on application to—

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### (A)

|                                  |        |
|----------------------------------|--------|
| 2 Aesclap Co.                    | 64     |
| 3 Allen and Hanburys             | 20, 68 |
| 6 Allen, R. J.                   | 32     |
| 11 Antitropic Co.                | 6, 7   |
| 12 Apollinari Co.                | 53     |
| 13 Arnold and Sons               | 6      |
| Assistants Wanted                | 27     |
| Assistants Wanting Situations    | 28     |
| 15 Atkinson & Barker             | 89     |
| 16 Australas (Ramornie) Meat Co. | 40     |

### (B)

|  |          |
|--|----------|
| 3 Bailey, W. H., and Son               | 60       |
| 4 Bailliére, Tindal and Cox            | 9        |
| 6 Baiss Brothers and Co.               | 74       |
| 9 Ball, Hobson and Co.                 | 67       |
| 10 Barber, T.                          | 97       |
| 14 Barnett and Foster                  | 46, 104  |
| 16 Barron, Squire and Co.              | 78       |
| 17 Bastin                              | 28       |
| 18 Bathgate and Co.                    | 67       |
| 19 Battle, J. R.                       | 96       |
| 20 Baumgartner and Co.                 | 32       |
| 22a Becker, F. E., and Co.             | 11       |
| 24 Beddar                              | 30       |
| 25 Beecham, T.                         | 83       |
| 27 Bentley, E.                         | 92       |
| 26a Bennett                            | 88       |
| 29 Bewley and Draper (Limited)         | 62       |
| 30 Bickford and Sons                   | 67       |
| Bolton                                 | 90       |
| 43 Bond's Daughter                     | 63       |
| 46 Boudault, H., and Co.               | 66       |
| 48 Bourne and Taylor                   | 19       |
| 50 Bowring and Govier                  | 58       |
| 52 Bradley and Bourdas                 | 35       |
| 53 Brady and Martin                    | 74       |
| 54 Brand and Co.                       | 41       |
| 56 Brathy and Hincliffe                | 45       |
| 58 Brecknell, Turner and Sons          | 13       |
| 58a Breffitt and Co.                   | 28       |
| 58a Brekke, Lars and Co.               | 76       |
| 59 Brett, F. J.                        | 26       |
| 61 Bristol, T. F., and Co.             | 17       |
| 66a Brown, B. F., and Co.              | 36       |
| 65a Brooks, T.                         | 28       |
| 67 Browne, C. F., and Co.              | 34       |
| 70 Buck, F.                            | 30       |
| 71 Bullock, J. L., and Co.             | 87       |
| 73 Burgess, Willows and Francis        | 87       |
| 74 Burgoyne, Burbidges, Cyriax and Co. | 71       |
| 75 Burrough, J.                        | 34       |
| 76 Burroughs, Wellcome and Co.         | 61       |
| 77a Bnsn and Co.                       | 37       |
| 78 Bush, W. J., and Co.                | 55       |
| 78a Bnsse                              | 66       |
| Businesses for Disposal and Wanted     | 27       |
| 79 Butcher, W., and Co.                | TEXT 488 |
| 80 Butler, McCulloch and Co.           | 87       |
| 83 Buxton, R.                          | 58       |

### (C)

|  |       |
|--|-------|
| 1 Cadbury Bros.                              | 104   |
| 1a Calvert, J. H.                            | 38    |
| 1b Cameron and Ferguson                      | 38    |
| 2 Cantrell and Cochran                       | 52    |
| 3a Carr, Graham and Sons                     | 90    |
| 4a Cayzed, G. de, and Co.                    | 68    |
| 5 Central School of Chemistry and Pharmacy   | 10    |
| 6 Centretion, J.                             | 14    |
| 8a Charras & Co.                             | 58    |
| 9 Chemists' Aerated Waters Association       | 50    |
| 10a Chemist and Druggist Optical Association | 14    |
| 12 Chesebrough Manufacturing Co.             | 4     |
| 13a Chiswick Soap Co.                        | 13    |
| 14a Chubb, J., and Co.                       | 28    |
| 15a City Rubber Stamp Co.                    | 10    |
| 16a Clarke, Bleasdale and Co.                | 76    |
| 18 Cleaver, Buckwell and Co.                 | 24    |
| 20a Collier, L.                              | 14    |
| 22 Colthurst and Harding                     | 60    |
| 25 Condy, R., and Co.                        | 98    |
| 26a Cooper, W.                               | 97    |
| 26b Copying Apparatus Co.                    | 64    |
| 27 Corbyn, Stacey and Co.                    | 1, 75 |

### (D)

|                           |    |
|---------------------------|----|
| 28 Corley, J., and Co.    | 17 |
| 34 Cowan, W.              | 81 |
| 37 Craven, F.             | 38 |
| 38 Craven, M. A., and Son | 40 |
| 47a Cundall and Co.       | 97 |
| 49 Curry, Lloyd and Co.   | 37 |

### (E)

|                                 |        |
|---------------------------------|--------|
| 1a Eau de Vals                  | 50     |
| 7 Ellis and Son                 | 53     |
| 9 Epps, J., and Co.             | 92     |
| 10a Eschwege, H.                | 43     |
| 11 Evans, H. S., and Co.        | 79     |
| 12 Evans, J.                    | 88     |
| 13 Evans, Lescher and Webb      | 42, 79 |
| 14 Evans, Sons and Co.          | 42, 79 |
| 15 Ewen, J., and Sons           | 16     |
| 16 Export Co. (Rhennish Brandy) | 69     |

### (F)

|                                     |     |
|-------------------------------------|-----|
| 1a Farina, J. M., No. 4             | 7   |
| 1b Farina, J. A.                    | 6   |
| 2 Faulding and Co.                  | 28  |
| 4 Favarger and Co.                  | 48  |
| 6 Felton, Grinwade and Co.          | 70  |
| 7 Fennings, A.                      | 104 |
| 11 Finch, Rickman and Co.           | 43  |
| 13 Fitch and Nottingham             | 36  |
| 14 Fletcher, Fletcher and Stevenson | 65  |
| 15a Forster and Gregory             | 89  |
| 14 Foulkes, W. J.                   | 15  |
| 18 Freeman, R.                      | 91  |
| 23 Fry and Sons                     | 39  |

### (G)

|                                |         |
|--------------------------------|---------|
| 1 Gabriel and Troke            | 96      |
| 2 Gadd, H.                     | 26      |
| 3 Galais, E., and Co.          | TEXT 28 |
| 6 Gibson, R.                   | 12      |
| 6a Giles, Schacht and Co.      | 88      |
| 7 Gillett, J.                  | 14      |
| 8 Glasgow Apothecaries' Co.    | 92      |
| 9 Goddard, J.                  | 33      |
| 10a Goodall, Backhouse and Co. | 42, 43  |
| 13 Gould, E., and Son          | 93      |
| 16 Greensill                   | 16      |
| 17a Gregory, W.                | 76      |
| 18a Gt. Tower Street Tea Co.   | 39      |

### (H)

|                            |        |
|----------------------------|--------|
| 0 Haensel, H.              | 69     |
| 5 Hampson, R.              | 14     |
| 6 Hargreaves, J., and Son  | 17     |
| 7 Harris, Philip, and Co.  | 63     |
| 8 Harrison, W. B.          | 50     |
| 9 Harrop, W. H.            | 36     |
| 10 Harston and Co.         | 52     |
| 16 Hay, W.                 | 50, 54 |
| 18 Haywood, J. S.          | 90     |
| 20 Heathfield              | 14     |
| 24 Henry, T. and W.        | 92     |
| 21 Hellier, E.             | 97     |
| 29 Hewlett, C. J., and Son | 75     |
| 30 Heynes, Mathew and Co.  | 67     |
| 39 Holloway, Professor     | 18     |
| 40 Homeopathic Hospital    | 9      |
| 41 Hooper and Co.          | 1      |
| 41a Hop Bitters            | 90     |
| 43a Hoskin, W.             | 43     |
| 44a Hovenden and Sons      | 16     |
| 45a Hughes                 | 97     |

### (I)

|                       |        |
|-----------------------|--------|
| 1a Ingham             | 69     |
| 3 Ingram and Son      | 100    |
| 2 Ingram and Royle    | 104    |
| 3 Jackson, T. S.      | 33     |
| 4 James and Co.       | 16     |
| 6 James, Lieut. R. S. | 94     |
| 7 James, R. J.        | 94     |
| 9 Jewsbury and Brown  | 30, 54 |
| 9a Johnson and Son    | 80     |
| 10 Jones, E. B.       | 68     |

### (J)

|                       |        |
|-----------------------|--------|
| 3 Jackson, T. S.      | 33     |
| 4 James and Co.       | 16     |
| 6 James, Lieut. R. S. | 94     |
| 7 James, R. J.        | 94     |
| 9 Jewsbury and Brown  | 30, 54 |
| 9a Johnson and Son    | 80     |
| 10 Jones, E. B.       | 68     |

### (K)

|                               |    |
|-------------------------------|----|
| 1 Kay Brothers                | 17 |
| 3 Keeme and Ashwell           | 18 |
| 4a Kempson and Son            | 88 |
| 5 Kempthorne, Prosser and Co. | 70 |
| 6 Kent, G. B., and Sons       | 31 |
| 10 Kilner Brothers            | 92 |
| 12 Kimpton, H.                | 9  |
| 13 King                       | 46 |

### (L)

|  |         |
|--|---------|
| 1 La Bourboule                           | 53      |
| 2 Lalor, Dr.                             | 86      |
| 4 Lamplough                              | 53      |
| 7 Laurance, H.                           | 18      |
| 8 Lazebny, E., and Son                   | 41      |
| 9 Leath and Ross                         | 3       |
| 11 Lehmann, R., and Co.                  | 39      |
| 11a Lelasseur and Co.                    | 37      |
| 12 Lemaitre and Co.                      | 59      |
| 13 Lenoun, B. G., and Co.                | 67      |
| 15 Letts, C., and Co.                    | 18      |
| 21 Liebig Extract of Meat Co.            | 89      |
| 22 Lincel and Midland Counties' Drug Co. | 23      |
| 24 Litchfield, P.                        | 87      |
| 35 Loeflund                              | 84      |
| 36a Longshaw, W., and Sons               | 88      |
| 41 Lynch and Co.                         | 44, 103 |
| 43 Lyon Brothers                         | 81      |

### (M)

|                              |           |
|------------------------------|-----------|
| 3 Macfarlan, J. F., and Co.  | 78        |
| 8a Maignen                   | 52        |
| 9 Malting Manufacturing Co.  | 68        |
| 9a Manchester School         | 10        |
| 12 Mather                    | 25        |
| 12a Mason and Co.            | 67        |
| 13 Mawer, Emery and Co.      | 40        |
| 14 Maw, S., Son and Thompson | 8, 35, 41 |
| 15 May and Baker             | 2         |
| 15a May-Davis                | 47        |
| 4 McMaster, Hodgson and Co.  | 31        |
| 16 Metz, Paul                | 38        |
| 21 Mills, R. M., and Co.     | 53        |
| Miscellaneous                | 28        |
| 28 Morrison and Thew         | 34        |
| 30 Mottershead and Co.       | 74        |
| 31 Mountain and Co.          | 47        |
| 32 Mumford, G. S.            | TEXT 488  |
| 33 Murphy, J.                | 17        |

### (N)

|                           |    |
|---------------------------|----|
| 1 National Chemical Co.   | 98 |
| 7 Newbery and Sons        | 25 |
| 10 Newton, Keates and Co. | 80 |

### (O)

|                               |    |
|-------------------------------|----|
| 1 Oakley and Sons             | 32 |
| 2 Oldfield, Pattinson and Co. | 96 |
| 3 Orme and Co.                | 10 |
| 4 Orridge and Co.             | 26 |
| 4a Orth, G. H.                | 16 |
| 5 Osborne, E. M.              | 91 |

### (P)

|                    |    |
|--------------------|----|
| 4 Pattison, G.     | 26 |
| 5b Percy Bros.     | 42 |
| 6 Peterson and Co. | 36 |
| 6a Pfahler, J. F.  | 69 |

Index to Advertisers—continued.

## Advertisers' and Buyers' Reference List

N.B.—The letters and figures which follow the headings—A 1, B 3, &c.—refer to the left-hand column in the Index of the Advertisers' names on the preceding page. The buyer in search of dealers in Quinine will find certain letters and figures in this Index. By referring to the Index of Advertisers he will find the pages indicated on which Quinine is advertised.

**ACETIC AC.** D 17. **AERATED & MIN. WTRS.** A 2, L 1, A 12, C 1a, C 9, E 1a, C 26c, B 14, A 10, E 7, G 3, G 21, H 8, H 10, H 16, B 41, J 9, M 21, R 18, S 14, S 18a, S 22, T 3, B 34, L 2, V 4, C 2, O 2a. **BOTTLES** D 4, B 14, V 1, G 5, F 9, F 4, M 31. **Do. PLANT** B 14, G 42, D 4, F 4, T 25, W 15, W 1a, B 56, T 25, M 15a, **GNCS.** **ABROAD** B 9, B 18, B 30, P 18a, W 4a, C 4, F 2, H 30, J 10, K 5, L 13, P 14, D 5a, E 10, R 11, E 14, F 6, R 15, B 18a, P 7, T 5a, M 12a. **ALKALDS.** S 31, W 12, M 3. **ANALYTE.** **CHEMISTS** C 27. **ANNATTO** M 17a, A 11. **APPARATUS, SCIENT.** D 2, M 16, O 3, W 24a, B 22a. **ALMANACS** C 3, D 5, S 21. **BAKING POWDER** G 10a. **BAR-YTA SALTS.** BEDS, WATER H 41. **BISM. SALTS** M 15. **BOOKS** D 14, S 30, G 9, G 13, K 3, K 10a, K 12, M 14, S 22a, S 30, V 2, B 4, C 15, M 35, C 21a. **BOOT POLISHES** B 66a, N 12. **BORAX** B 45. **BOTTLES & POTS** B 15, K 10, 14, B 27, B 66, D 8, G 8, L 40, M 31, P 17, T 15. **BRUSHES** K 6, P 13. **BOXES, WD & TIN** M 16, S 27, W 17. **CACAO BUTTER** B 53. **CAMPHOR** M 15, N 7, E 14. **CAPSULES** D 10, B 67. **CARBOLIC ACID, &c.** L 36a, Z 1. **CASTOR OIL** A 3, B 17a. **CEMENTS** K 1. **CHEKAN** W 29. **CHEMICALS** M 15, N 10. **F. FILA**, L 36a, Z 1, O 3, P 7, S 31. **CHEST PROTECTORS** T 15, P 4, M 14, M 15a. **CHEQUE BANK AGENCIES**, C 13. **CHINOLINE** Z 1. **CHLRDYN.** D 3, T 16, T 24, F 18. **CHLOROFM.** D 16, M 3, Z 1, S 31. **CINCHONA BARK** T 5a. **COCOA & CHOCOLATE** F 23, C 1. **CODLIVER OIL** A 3, C 34, S 8, S 35, W 25, W 29, L 58a. **COFFEE** M 13, C 7, P 9, P 5b. **COLLAPSIBLE TUBES** B 66. **COMBS** S 45. **CONFETIONERS' BOOKS AND PLANT** C 20a, C 38, S 22a. **CORKS** B 58b. **CORN CURES** A 10, C 28, H 6, R 13, S 33, S 34, Y 2, E 14. **DENTIFRICES** D 1, J 9, M 19, W 24, S 52, L 9, T 6, N 7, B 24, D 14, W 4a. **DENTISTRY** B 70. **DISINFECTANTS** A 11, C 23, C 24, C 25, N 1, R 8, H 45a. **DOG BISCUITS, &c.** E 14, S 38, H 21, W 28a. **DRUGSTS' SUN-DRIES** E 13, M 14. **T 15, M 11, B 6, B 27**, B 74, C 49, T 7. **DYES** S 6, L 36a. **EAR PROTECTOR** L 41. **EARTH-ENWARE GOODS** I 4. **EAU DE COLOGNE** F 1, Fl 1a, J 11a. **ELECTRIC BELLS** D 2. **ENGINES** G 42, T 25. **ES-** **ENEMAS** I 3, L 41, G 6. **PERFUMERY** M 19, M 30. **PEPSIN & PEPTONE** M 19, M 30. **PEROX.** **HYDROGEN** B 81, R 10. **PETROLIN,** C 49, C 19, C 12, C 22. **PERFUMERY & SOAPS** B 61, L 14, P 76, C 12, I 38, R 8, S 11, W 7, W 13, F 1, G 16, L 30, R 19. **PHARM. PREPS** S 53, B 76, H 29, G 6a, S 40, C 18. **PHOSPHORIC AC.** N 10. **PHOTOGRAPHIC CHEM'S** M 15. **PILL MACHINES** C 20. **PILLS** (Coated) S 10, W 3, W 25, A 3, H 5, W 29. **PLEASTERS** D 11, S 15. **POLISHING PREPS.** B 20, B 52, E 14, G 9, O 1, D 15a, P 11. **PRICE LISTS** T 15, J 2, E 13, T 6, M 14. **PRINTING** K 13. **QUININE SALTS** B 42, W 12, B 74. **RENNET** A 11, M 17a, C 18a. **REMOVALS** H 33, M 15a. **RESPIRA-TORS** M 15a, B 48, M 14. **SALICYLIC AC.** B 74, Z 1. **SA-LINES** L 4, E 13, M 4. **SAUCES** L 8, M 14, G 10a. **SCHOOLS** C 4, G 5, S 36, S 12, W 9, T 21, E 3, L 34a, S 14a, K 12a, N 5a, M 9a.—See pages 30-38. **SEID-LITZ POWDERS.** C 14, S 42, C 26. **SELTZOGENES** G 5, F 9, B 62. **SHEEP DIP** T 12, C 26a, B 33. **SHOP FITTERS** H 45, R 4, T 13, T 17, B 50, Y 1, L 12. **SILVER NITR.** R 19. **SMELLING SALTS** B 77a. **SOAP** L 19, C 13a, C 22, B 58. **SODA PHOSPH.** N 10. **SPECTACLES** D 2, L 7, C 10a. **SPIRIT** B 75, S 26. **DO. METHYL** W 4. **SPONGE** C 40, P 6, H 11. **SPRINKLER STOPPERS** B 66. **STAMPS, RUBBER** C 15a. **STAR-CH & GLAZE** H 9, M 32, S 6. **STRYCH-NINE** W 12. **SUPPOSITORIES** B 53. **SURGICAL** A 13, B 3, H 18, P 20, L 43, M 14, S 2, C 34, S 8, C 49. **SYPHONS** B 62, W 15, M 31, F 4, T 25, G 5, K 10, W 7a, B 14. **SYRUPS** F 14, S 12, A 3, D 16, G 6a, F 14. **TEA** W 1, G 18a. **TELEPHONES** O 3.  **THERMOMETERS** D 2, M 16. **TOBACCO, &c.** W 4a. **TOOTHACHE** CURES G 17a, C 16a. **TINCTURE** PRESS B 76, Z 6, O 10. **TINFOIL** B 67. **TRUSSES** B 3, S 2, H 18. **TONGA** A 3. **VALUERS** B 59, O 4, T 4, T 14, T 18, G 2. **VERMIN KILLERS** B 10, B 19, C 37, H 21, H 48, P 17a. **VETERINARY** C 26a, D 6, G 1, H 21, J 7, J 6, T 2, T 3, S 38, C 1a. **WEIGHTS AND SCALES** P 3. **WHEAT DRESSING** C 47a. **WHOLESALE AND EXPORT** DRUGSTS B 6, B 16, B 17, O 2, B 73, B 74, C 27, E 14, F 6, P 18a, W 4a, M 19, W 29, S 53. **WATER** — CONCENT. B 80, R 4a. **WAX** D 14a, W 26, J 9a, W 4b. **WINES** B 76, J 2, R 13. **ZINC OXIDE** H 7.

# SOLUBLE & PERMANENT SUGAR-COATED PILLS.

No Pin-Holes. No Secret Coating. Purest Drugs.

*Award of Merit, International Medical and Sanitary Exhibition, 1881.*

SIX GRAND WORLD'S FAIR MEDALS. FIRST CENTENNIAL PRIZE OVER ALL COMPETITION.

The manufacture of officinal and other ready-made Pills for Physicians' prescriptions has been, on our part confined to those coated with sugar and round in shape; because an experience of more than a quarter of a century serves to convince us that sugar is the only proper material with which to coat a pill; in confirmation of which we append the following reason :—

- 1.—Because sugar is more soluble than gelatine, glue, chalk, or talc, of which the two former are the same in substance and properties. . . . . “Sugar-coated pills are more soluble than gelatine-coated or compressed pills.”—*Prof. Remington's Paper read before the American Pharmaceutical Association, Boston, 1875.*
- 2.—That according to our process, no sub-coating of insoluble shellac is necessary.
- 3.—That the direct application of heat is entirely avoided, and the masses can be coated when so soft as not to admit of being dipped in a hot solution of gelatine, or other substance.
- 4.—Sugar as a coating is not incompatible, as is the case with gelatine, when brought in contact with certain kinds of food, astringent fruits, or wine containing Tannin, by which it (gelatine) is converted into a condition the basis of leather.
- 5.—The preservative properties of sugar, and the tendency to attract rather than yield moisture as gelatine does, prevent the subsequent drying and hardening of the pills.
- 6.—A round substance is more easily swallowed than one which is elongated, flattened, or pointed, there being no art in deglutition that would enable it to pass endwise.
- 7.—The colour and shape of some gelatine-coated pills are so inelegant by comparison with the round, white sugared pill, as to be repulsive to sensitive patients.
- 8.—Actual experiments, which you are enabled to perform as to solubility and the administration of a dose of cathartic pills, the effect of which is soon apparent, will practically demonstrate the truth of our claims for the superiority of **WARNER & CO.**'s method over ALL others for coating pills.

**WM. R. WARNER & CO.**, Manufacturing Chemists, Philadelphia.

Sole British Depot—**F. NEWBERRY & SONS** (Estd. A.D. 1746), 1 King Edward St., Newgate St., London, E.C.

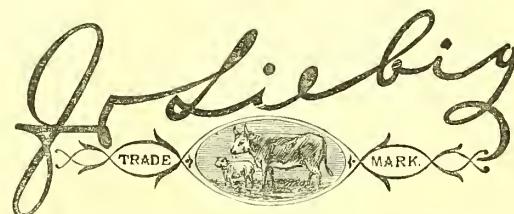
*Complete List, with Opinions of the British Medical Profession, post free on application.*

## LIEBIG COMPANY'S EXTRACT OF MEAT

AN INVALUABLE AND  
PALATABLE TONIC FOR  
INVALIDS.



Peculiarly efficacious in all cases of  
Debility and Weak Digestion.



N.B.—Genuine ONLY with fac-simile of  
Baron Liebig's Signature, in Blue  
Ink, across Label.

**CAUTION.**—Inferior substitutes being in the market (sometimes accompanied by misleading analyses and names), Purchasers must insist on having the Liebig Company's Extract. For flavour and clearness is pronounced by all competent authorities to be the best.

# FIELD'S LIQUOR TARAXACI

Concentrated IN VACUO to a  
Strength double that of the Succus Taraxaci of the Pharmacopœia.

The process by which this preparation is manufactured entirely excludes the injurious effects of Heat, Oxidation, and Fermentation. The active constituents remain quite uninjured; and, owing to the great care with which any incipient change is guarded against during the manufacture, this preparation KEEPS PERFECTLY, whilst the expressed Juice of the British Pharmacopœia, although containing 25 per cent. of Rectified Spirit, quickly becomes mawkishly sweet, through the conversion of its active constituents into inert saccharine matter.

Price 4/- per lb. W. Qts. 3/10.

# FIELD'S LIQUOR CINCHONÆ CORDIFOLIAE

This well-known preparation contains the whole of the active ingredients of Bark, and is manufactured with great care by a process specially devised for that purpose. It is made from the best Bark, and will be found a great desideratum to Druggists and Medical Men, as it furnishes a ready means of at once preparing Decoction of Bark quite equal to that made from fresh Bark.

*Thirty minims of this Preparation, diluted to an ounce (with distilled water), forms the Decoction Cinchonæ Flavæ of the Pharmacopœia.*

Price 10/- per lb.

# LIQUOR CINCHONÆ RUB.

1 fl. oz. equal to 1 oz. of Best Red Bark.

Price 10/- per lb.

This preparation is made from the very finest *Red Bark*, and is guaranteed to contain a high percentage of Alkaloids as well as the natural Aoids of the Bark.

It is of considerable use as a remedial agent in chronic intemperance, and is prescribed for that purpose by several of the London physicians.

Messrs. CLEAVER & Co. beg to call special attention to the following preparations. They may be depended upon for being made only from best drugs, and will keep for any length of time without formation of unsightly deposits.

|                       |     |     |             |                      |   |     |     |             |
|-----------------------|-----|-----|-------------|----------------------|---|-----|-----|-------------|
| Inf. Rosæ Acid. Conc. | ... | ... | 3/6 per lb. | Ext. Ergotæ Liq.     | ...   | ... | ... | 4/6 per lb. |
| " Gentian. Co. Conc.  | ... | ... | 1/6 "       | " Sarsæ.             | ...   | ... | ... | 9/6 "       |
| " Scenægæ "           | ... | ... | 3/6 "       | " "                  | Specially purified from all mucilaginous matter |     |     | 12/- "      |
| " Buchu               | ... | ... | 1/6 "       | " Glycyrrhizæ Liq.   | ...   | ... | ... | 2/8 "       |
| Dec. Sarsæ. Co. Conc. | ... | ... | 4/- "       | Succ. Taraxaci, B.P. | ...   | ... | ... | 2/- "       |
| " Aloes "             | ... | ... | 4/6 "       |                      |   |     |     |             |

Syrup Sennæ, warranted very active 1/6 " | Liq. Sennæ Dulc. ... ... ... 2/6 "

Special attention is called to these preparations, which are made entirely from Alexandrian Senna.

*Can be obtained of all Wholesale Houses, or direct from the Manufacturers,*

**CLEAVER, BUCKWELL & CO.,**  
WHOLESALE PHARMACEUTICAL CHEMISTS,  
9 GREAT CASTLE STREET, REGENT STREET, LONDON, W.

**SPECIALITE:**—Concentrated Infusions, Liquid Extracts, &c., prepared in vacuo from selected drugs only, at prices same as charged by all Wholesale Houses.

IMPORTANT TO CHEMISTS, WHOLESALE DRUGGISTS, &c.

WILLIAM MATHER,  
DYER STREET, CHESTER ROAD,  
MANCHESTER,

Manufacturer of every description of Plain and Fancy Cardboard Boxes,

*Begs to intimate that he has made a complete extension of the Cardboard Box Manufacturing Business, carried on at his Establishment for a number of years, and, having adopted the latest improvements in Machinery, &c., he is in a position to execute all Orders on the shortest notice, and at the lowest possible prices.*

PLAIN, SLIDE, AND SHOULDERED BOXES AS USED FOR  
CASTOR OIL,

EXTRACTS,

HAIR OILS,

TOILET SOAPS,

PERFUMERY,

PROPRIETARY MEDICINES,

CONDITION POWDERS,

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SEIDLITZ POWDER BOXES,

LOZENGES, &c.

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Druggists requiring any special kind of Boxes in colour or size should forward samples.  
Quotations forwarded and Samples made on the shortest notice.

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The Business conducted by Messrs. ORRIDGE and Co. has been known as a Transfer Agency since the year 1846, and is well known to all the leading firms in the Trade.

VENDORS have the advantage of obtaining an opinion on Value derived from extensive experience, and are in most cases enabled to avoid an infinity of trouble by making a selection from a list of applicants for purchase, with the view of submitting confidential particulars to those alone who are most likely to possess business qualifications and adequate means for investment.

PURCHASERS who desire early information regarding eligible opportunities for entering business will greatly facilitate their object by describing clearly the class of connection they wish to obtain. N.B.—No Charge to Purchasers.

Particulars of any of the following will be sent free on application:—

- 1.—LONDON, N.—Retail and Dispensing; returns nearly £800 yearly; profits above the average; good opening for dentistry; price about £700.
- 2.—LONDON, N.E.—Good-class Retail and Dispensing; handsomely fitted shop; returns about £550; offers wanted.
- 3.—LONDON, S.E.—Retail and Dispensing Business; returns £600 yearly; good profits, all full prices, several proprietary articles included; price about £600.
- 4.—LONDON, W.—In a thickly populated neighbourhood, a small business suitable for branch; returns average £260; offer wanted.
- 5.—LONDON, N.—Very old-established Retail and Dispensing Business; returns £700; good proprietary articles attached; good house, low rent; price about one year's returns.
- 6.—CROYDON.—First-class Retail and Dispensing; returns £700 yearly; handsome double-fronted shop; good house and large garden; price £600.
- 7.—MANCHESTER.—Very old-established Retail and Dispensing Business; returns nearly £1,000; good house; price about £1,000, or offer.
- 8.—ESSEX.—Retail and Dispensing; returns £1,000 yearly (net profit half); illness cause of sale; to an immediate purchaser terms will be made easy.
- 9.—WESTERN COUNTY (SEASIDE).—Good-class Retail and Dispensing; returns over £700; full particulars on application.
- 10.—MIDLAND COUNTY.—Mixed Business; returns nearly £1,300 yearly; profits large; full investigation permitted; price about £750, or valuation.

Other businesses Town and Country, particulars free on application.

Terms for valuation on application.

**ORRIDGE & CO., 32 Ludgate Hill, E.C.**

## MIDLAND COUNTIES TRANSFER AGENCY.

**F. J. BRETT,**

Trade Valuer and Auctioneer, Leicester.

All kinds of Chemists' Stock and Fixtures valued. Partnerships arranged. Particulars of different classes of Businesses forwarded to Buyers.

To prevent disappointment, it is necessary for gentlemen desirous of securing Mr. Brett's services as a Valuer that appointments should be made as early as possible.

F. J. Brett has always on his Register from 200 to 300 Businesses in all parts, and at a wide range of prices.

Statements prepared for Meetings of Creditors.

F. J. Brett's practical knowledge of the trade in all its branches renders him specially adapted to act as trustee in Liquidations and Bankruptcies. Chemists in difficulties can have their affairs settled by private arrangement.

LANCASHIRE.—Good-class Retail in small town; well-fitted shop and convenient house; returns, £430; goodwill, £30; stock and fixtures at valuation, £400.

OXON.—Unopposed Village Retail Dispensing, and Prescribing; returns, £260; price, £250.

NORTH OF ENGLAND.—Profitable Light Retail in rapidly-improving part; returns, £441; through serious illness, vendor being ordered abroad, will sell for £450.

DERBYSHIRE.—Unopposed Retail worked by Apprentice; population 5,000; returns, £400; can be doubled by resident proprietor at once; price, £200.

DURHAM CO.—Old-established Light Family Retail and Dispensing, with family trade in Wines and Spirits; returns—drugs, £1,300; wines, £800; goodwill, £100; stock and fixtures at valuation, £800.

NORTH STAFFORDSHIRE.—Old Family Retail, in market town, with Light Prescribing; returns, £1,700; excellent house, shop, and garden; at valuation, £800.

YORKSHIRE, WEST RIDING.—Compact Retail as Branch; returns, £500; excellent opening for Dentistry; price, £360.

NORFOLK.—Family Retail and Prescribing; no heavy trade; good and healthy market town; rent, £35; lease value, £1,100; a bargain, £700.

LEICESTER.—Light Retail and Prescribing in busy thoroughfare; returns, £300; price, £200.

SHEFFIELD.—Retail and Prescribing, with Drysalting, in commanding position; established 50 years; returns, £1,350; goodwill, £100; stock and fixtures, £600.

SHEFFIELD.—Dispensing and Light Retail, in fine position; returns, £800; one of very profitable character; price, £650.

LONDON, S.E.—Prescribing and Light Retail; doing £10 week under bad management; capable of being doubled; fine house and garden; price, including valuable and long lease, £600.

LONDON.—Several Businesses, suitable for beginners, from £150 to £200.

LONDON, S.W.—Profitable Good-class Retail, Branch; returns, £575; house good; price, £550; part can remain.

MIDLANDS.—Retail, with small proportion of Local Wholesale, at good profit and short credit; returns, £1,300; rent and taxes are covered by transferable appointment; excellent chance for industrious young man; price, £700; £200 can remain for a time.

**F. J. BRETT, LEICESTER.**

## MR. TRIPPIER, Medical Agent and Valuer, 79 ISLINGTON, LIVERPOOL.

FOR TRANSFER.

YORKS.—Death vacancy.—An old-established Family and Dispensing Business; excellent position; large well-fitted shop; extensive premises; on favourable terms; will be sold a bargain.

STAFFS.—A Business, established over 50 years; returning £1,700; light mixed trade; no goodwill; a valuation; disposing on account of ill-health.

OXON.—Well-established good-class Business; returns over £700; for disposal on very favourable terms.

BRISTOL (Locality).—First-class Dispensing and Light Retail Business; a handsomely-fitted shop; convenient house, at low rent; would suit a person with small capital.

GLASGOW.—Two old-established businesses, doing good Retail and Dispensing Trade.

LIVERPOOL.—A Prescribing, General, Retail, and Shipping Business, near the Docks; established over 30 years; to be sold cheap, proprietor having other engagements.

AN OLD-ESTABLISHED Dispensing and Medical Business; very profitable; terms easy; central position.

MID-LANCASHIRE.—A Dispensing and Prescribing Business; established 25 years; returns £700; proprietor retiring; large house, at very low rent; a good opportunity for an attentive person; great scope for increase.

SOMERSET.—Old-established General Drug Business, returning over £1,000; large and convenient premises.

No Commission is charged to Purchasers.

All information on application. To facilitate matters, a reference required on parties applying for the first time.

Lists of Stock for Appraisement receive immediate attention.

## HENRY GADD,

*Member of the Pharmaceutical Society,*

## CHEMISTS' TRANSFER AGENT AND VALUER, 97 FORE STREET, EXETER.

Full particulars of valuable and high-class Businesses in London and Country sent on receipt of application, per post or otherwise. Applicants will oblige by stating size of business required.

## SALES BY AUCTION, &c.

### TO CHEMISTS.

TO be SOLD by AUCTION, on Wednesday, the 22nd day of November (unless previously disposed of by private treaty), the entire Fittings, Glass Cases, Bottles, Jars, and all Utensils in trade, together with the Goodwill and immediate possession of the old-established Business, 87 Old Chester Road, Tranmere, Birkenhead; proprietor having other engagements. For further particulars, apply, 8 St. Peter's Street, Derby. To view, apply, 85 Old Chester Road, Tranmere.

## MESSRS. TENCH & TAYLOR, LICENSED VALUERS AND TRANSFER AGENTS,

Walbrook Chambers, 38 Walbrook, London, E.C.

(Where the late Mr. Jackson conducted his business for upwards of 20 years),

Have the following businesses for disposal. Further particulars and orders to view can be had on application:—

1.—LONDON, N.—Retail Prescribing, Dispensing, and Dentistry; returns £728; net profits, £373; rent £55; on long lease; price only £650.

2.—ESSEX (20 miles from town).—Light Retail and Prescribing; returns over £1,000; net profits nearly £550; rent £20; price £900; serious illness cause of sale.

3.—LONDON, W.—Retail, Dispensing, and Prescribing; returns over £6 weekly; gross profits about £4 weekly; 8-roomed house; rent £55; price £350; trial allowed.

4.—YORKSHIRE.—Dispensing and Light Retail; returns about £800; gross profits half; good 11-roomed house; price £550.

5.—LONDON, N. (Main Thoroughfare).—Retail Dispensing and Prescribing; returns under management £500; Post Office attached pays rent; price £500.

6.—HERTS.—Prescribing and General Retail; returns about £450; rent £35; price valuation, about £300.

Gentlemen seeking investments are respectfully requested to apply to Messrs. T. & T. for their PRINTED REGISTER, which contains particulars of about 200 other businesses ranging in price from £80 to £2,000.

No charge is made to purchasers.

## THOS. TOMLINSON & SON, AGENTS AND VALUERS, 41 CORPORATION STREET, MANCHESTER, 34 YEARS' PRACTICAL EXPERIENCE,

Representing Messrs. Burgoynes, Burbidges & Co., Lewis Berger & Sons, of London, and formerly the late William Mather, Druggists' Fitter, have had more experience, and come in more immediate contact with the Trade than any other valuers, and consequently always give opinions satisfactory to either Buyers or Sellers.

Droylsden, near Manchester.—£700; returns about £800; profits £300; wine and spirits; can be recommended.

Caversham, near Reading.—£250; handsome fitted shop.

Selby.—£500; returns, £600; profits, £200.

Nottingham.—£1,000; returns, £1,800; profits, £400.

Derby, Suburb.—£600; returns, £1,300; profits, £350.

Sheffield.—£1,000; returns, £3,000; profits, £300.

Sheffield.—£700; returns, £1,800; profits, £300.

Leigh, Lancashire.—£500; returns, £1,000; profits, £280.

Burnley.—£800; returns, £750; profits, £300.

Broughton, Manchester.—£400; returns, £700; profits, £250.

Manchester.—£650; returns, £1,700; profits, £400; petroleum, lamps, stoves, oils, &c., no drugs; and many others.

ADVICE AND PARTICULARS ON APPLICATION.

## BUSINESSES FOR DISPOSAL.

CHEMISTS' and Dispensing Business for Disposal; old-established; present owner retiring; West End of London. Address, F. W., Street Brothers, 5 Seale Street, Lincoln's Inn, W.C.

NEAR LONDON, in a small market town, an old-established Business; almost entirely Light Retail; lease of premises can be had; price about £450. Particulars of Wyley & Co., Coventry.

A BUSINESS, situate in one of the busiest of Lancashire towns, to be had for valuation of stock and fixtures, say, £300 to £400; this is a capital opportunity for one commencing business. X. Y. Z., Office of THE CHEMIST AND DRUGGIST, 44a Cannon Street.

A RARE OPPORTUNITY.—Dissolution of Partnership.—A good Business to be Sold; Shipping and General; returns nearly £1,000; full prices; price, £800. 235/31, Office of THE CHEMIST AND DRUGGIST, 44a Cannon Street.

IMMEDIATE OFFER.—Genuine and profitable Retail, with Post Office, in London, S.E.; returns over £450; old-established and well stocked; good opportunity for a beginner. H. Taylor, 6 Bird Street, Brook Street, Kennington Road, S.E.

WORTH NOTICE.—An old-established Business for Sale in a small town in Shropshire; returns between £500 and £600, with good profits; an immediate and sure income; good house and garden, on lease or sale; price £500, or £100 goodwill and valuation. "Chemicus," Wyley & Co., Coventry.

FAMILY RETAIL DISPENSING and PRESCRIBING; North; returns about £1,600. This business is thoroughly genuine, and every facility given to *bond fide* buyers for investigation; can be either purchased for a lump sum or gradually; £200, and valuation of stock and fixtures, about £900. "Emigrant," care of Messrs. Burgoynes & Co., 16 Coleman Street, E.C.

THE Chemist's and Druggist's Business successfully carried on for the last 24 years by the late Mr. John Moss, at No. 25 Market Street, Chorley, and the goodwill and stock-in-trade thereof, are for immediate Disposal; the turnover for the past 12 months has been over £1,000; the rent is £50. For further particulars apply to the executors, Mr. Wm. Ward, Hosier, Deansgate, Manchester, or Mr. John Yates, Ironmonger, Chorley.

MANCHESTER.—For Disposal, an old-established first-class Dispensing and Family Business, successfully carried on for many years, situate in the best part of Oxford Road, in the midst of first-class Medical men, and directly opposite Victoria University (Owens College); this is a chance rarely occurring for a gentleman accustomed to a first-class trade; satisfactory reasons for disposal; last year's returns nearly £1,000; rent, £63; price, £1,000; one-half could remain on with approved security. Address, James Woolley, Sons & Co., Manchester.

FOR DISPOSAL, a Dispensing and Light Retail Business (a branch), situated in the midst of a beautiful and extensive agricultural district; a nice trade done also in Seeds, Sheep-dipping, and general farmers' requirements; no opposition, and full prices for everything; to anyone accustomed to a country trade this would be found to be a good speculation; takings, £8 per week, which could be increased if superintended by the Proprietor; rent and rates very low; price, £400. 149/16, Office of THE CHEMIST AND DRUGGIST, 44a Cannon Street.

MANCHASIRE.—Genuine Family Retail and Prescribing Business in an increasing locality; established 8 years; average return for last 3 years, £430, at good profits; good scope for increase, with splendid opening for Teeth Extraction and Dentistry; premises very good; rent, £35 16s.; rates, £5; shop very well fitted; stock and everything in first-rate order; price about £420, or £30 goodwill, and stock and fixtures at valuation; satisfactory reasons for disposing. Address, M. W., care of Messrs. Clarke, Bleasdale & Co., York.

TO CHEMISTS, &c.—To be Disposed of at Christmas, or earlier if necessary, Chemist's Business, in one of the prettiest and most healthy towns in Berkshire, taking £400 a year, all at full prices; established 24 years; also Mineral Water Factory attached, established, with Patent Bottles and Syphons, last year, and doing a good trade already, and open to great increase; also branch Business in large village, four miles away, established 1½ years, and now doing £200, and increasing; low rent; easily managed; well stocked; price altogether £800; or will be disposed of separately; no agents. Address, A. K., Messrs. Sanger, 489 Oxford Street, London.

## PARTNERSHIPS.

PARTNER WANTED, with Capital and time, to assist in the development of a well-known Patent Medicine; a Young Man with energy would find this worth his notice. Apply to T. B. Morton, Queenstown, co. Cork.

WHOLESALE DRUGGIST SUNDRY TRADE.—A Partner, to take the place of retiring one, with a capital of £2,500 to £3,000; principal town in North of England; old-established Business, capable of very considerable development. Address, N 872, Sell's Advertising Offices, Bolt Court, Fleet Street, E.C.

## EMPLOYERS WANTING ASSISTANTS.

TO CHEMISTS AND DRUGGISTS.

MR. ORLANDO J. KEMPTHORNE, of New Zealand, being about to return to that colony, would be pleased to confer with any Young Gentlemen who have passed the Pharmaceutical examination of Great Britain, and would like to emigrate to New Zealand; only those who can produce the most satisfactory references as to sobriety, energy, and trustworthiness need apply. Address, by letter, care of Grinwade, Ridley & Co., 82 Bishopsgate Street, E.C.

WANTED, an Improver; ample time will be given for study. Apply, by letter, to E. F. Froud, Chemist, Portishead.

A N able Assistant for one of our firms in the East. Apply by letter to A. S. Watson & Co., 106 Fenchurch Street, E.C.

CHEMIST.—Assistant Chemist wanted for a mine in Spain; chiefly assays for copper. Address, with full particulars as to age and previous occupation, to Quimico, care of Messrs. G. Street & Co., 30 Cornhill, E.C.

WANTED, a gentlemanly out-door Assistant; must be competent to dispense; good salesman and counter hand. Apply, with full references, enclosing carte de visite, and stating salary expected, to Goulding, Cork.

**WANTED**, a Junior Assistant, about 21 years of age, for the Mixed trade, indoors; no Sunday duty; one who can extract teeth preferred. Address, giving references, and stating age, salary required, and when at liberty, to Joseph Watts, Chemist, Attercliffe, Sheffield.

**WANTED**, an outdoor Apprentice, who will have exceptionally good opportunities of learning the Business, and who will be helped in preparing for his examinations; premium moderate. Address, A. Law, Chemist, Maple Road, Penge, Surrey.

**WANTED**, as Assistant to a Chemist and Druggist, a young man for a small country business (souto); one who will take an interest in improving the same; a small salary with a comfortable home. Address, Mr. Jameson, care of Messrs. Baiss Brothers, Jewry Street, Aldgate, London, E.

### ASSISTANTS WANTING SITUATIONS.

**L**OCUM TENENS.—Mr. R. E. Taylor, Botanic Road, Churchtown, Southport, now disengaged.

**I**MMEDIATELY; as Junior; 6 years' experience. "W." 98 Langsett Road, Sheffield.

**A** PERMANENT SITUATION as Manager; aged 27; 18 years' experience. Address to H. P., care of Messrs. Compton & Son, Pharmaceutical Chemists, Margate.

**A**S IMPROVER, or Junior, in first-class Dispensing Business; aged 20; height, 5 feet 7 inches; photo sent. W. P. Edwards, Westbatch, Taunton.

**A**S ASSISTANT to a Chemist, or Dispenser to a Surgeon; 12 years' London and Provincial experience; testimonials and reference on application. J. Ostler, The Cross, Gloucester.

**A**S JUNIOR ASSISTANT; aged 19; height 5 feet 6 inches; good reference; salary moderate. G. Portlock, Mr. West's, Chemist, Leominster.

**WANTED**, Situation as Town Traveller (on commission or salary) or Warehouseman; first-class testimonials; disengaged at the end of the month. Address, 46 Branksome Road, Acre Lane, Brixton, S.W.

**W**HOLESALE, OR DRUGGISTS' SUNDRIES.—Traveller, with good connection, desires re-engagement or as Manager; thoroughly experienced in the Wholesale trade; highest references. J. E. F., Jarman & Flint, Salthouse Lane, Hull.

**WANTED**, by Registered Chemist, 25 years' experience, Situation as Traveller, Manager of Branch or Wholesale House, temporary or otherwise; Yorkshire preferred. Apply, Tankard, Faltas House, Idle, near Bradford.

**A**S JUNIOR ASSISTANT in a good Dispensing Establishment; aged 20; height 5 feet 11 inches; good references; permanency desired; 5 years' experience; disengaged December 1. Apply, "Assistant," 22 London Road, Brighton.

### MISCELLANEOUS.

**T**O THE AERATED WATER TRADE.—Bottlers and others wanting Situations, Employers requiring Bottlers, &c., should write to N. G. Wilcocks, Back Street, Bath. No charge whatever.

TO CHEMISTS, DRUGGISTS, AND DEALERS IN BULLION, PRECIOUS STONES, &c.

**N**OTICE IS HEREBY GIVEN that the Court of Quarter Sessions for the County of Middlesex has provided an office in the Sessions House, Westminster, for the VERIFICATION AND MARKING OF APOTHECARIES' AND DECIMAL GRAIN WEIGHTS AND MEASURES, and that two of the County Inspectors will be in attendance there on Monday and Thursday in every week from 11 till 1 o'clock after the 10th November instant, until further notice.

All persons concerned are recommended to take this opportunity of having their weights and measures duly verified and marked before the County Inspectors visit their shops and warehouses for the purpose of examining with the Standards weights and measures of the above description.

Dated this 1st day of November, 1882.

RICHARD NICHOLSON,  
Sessions House, Clerkenwell, F.C.  
Clerk of the Peace.

**S**MALL CORKS, 1d. per gross, larger sizes in proportion. These Corks are the solid portion of the Patent Hollow Corks cut by machinery for the Aine and Calder Glass Bottle Company's Patent Stoppers, 83 Upper Thames Street.

## CASH versus CREDIT.

SEND FOR

### ALFRED BASTIN'S

### NETT CASH PRICE LIST

(POST FREE ON APPLICATION).

**A. BASTIN**, Wholesale & Export Druggist,  
29 FENNEL STREET, MANCHESTER.

(MANY YEARS WITH ALLEN & HANBURYS, LONDON.)

### STORES versus FAIR TRADE.

**T**HE only rational mode of competing with Stores and Cutting Prices is for Chemists to produce their own Medicinal Specialities; buyers benefit, sellers profit by it. Chemists requiring well-tried reliable formulae (collected and proved at great expense) can be supplied reasonably; satisfaction guaranteed; detailed lists free. Please note my advertisement in "Exchange Column," page 503; observe name, price, and terms.

**T. BROOKS**, Chemist, LOUTH, LINCOLNSHIRE.

### J. CHUBB & CO.

CONTINUE TO SUPPLY

### BEST SEIDLITZ POWDERS,

Loose, at 7s. per gross, and in boxes at 8s., 9s., and 10s. per doz.; Extra-scented Violet Powder, prepared with wheaten starch, in 1d. boxes, 7s. per gross, 2d. boxes, 14s. per gross, 2s. 6d. per doz.; Prepared Fuller's Earth, in 1d. boxes, 7s. per gross, 2d. boxes, 14s. per gross, and 1-lb. boxes, 2s. per doz., through the Wholesale Houses, or from 29 OLD STREET, LONDON, E.C.; and will forward list of articles packed by him on application.

THE ORIGINAL

### ARNICATED

WHITE FELT

### CORN AND BUNION PLASTERS,

INVENTED AND ESTABLISHED BY

**HENRY YOUNG,**  
A.D. 1846,

AND FAVOURABLY KNOWN ALL OVER THE GLOBE.

SUPPLIED BY ALL WHOLESALE HOUSES.

**N.B.**—Please see that YOUNG'S Goods are supplied, as there are many worthless imitations.

Manufactory, 72 Clerkenwell Road, London, E.C.  
(LATE OF CARthusIAN STREET.)

**F. H. FAULDING & CO.,**  
WHOLESALE DRUGGISTS,

Clarence Place, King William Street,  
ADELAIDE;  
And PORT ADELAIDE.

ESTABLISHED 1845.

1882.

SIXTEENTH SEASON.

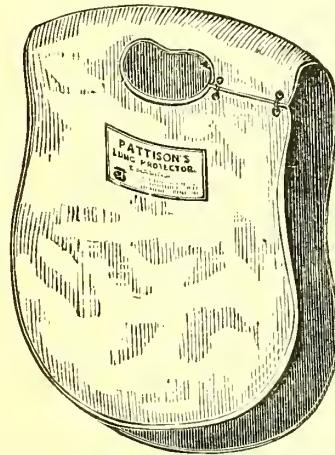
THE

## LUNG PROTECTOR

(REGISTERED).

*"An Article of Acknowledged Excellence."*

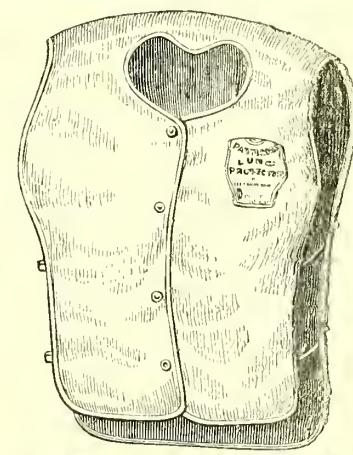
The "LUNG PROTECTOR" continues to be made only from the same Fine Soft Wool which has always been used since its introduction 16 years ago. Chemists are caustioned against the mendacious assertions of unscrupulous persons who push upon them coarse and inferior imitations, the sale of which can only lead to ultimate loss of trade.



**THE LUNG PROTECTOR.**  
ORIGINAL PATTERN.



**LUNG PROTECTOR.**  
THE AMERICAN.



**LUNG PROTECTOR.**  
THE CANADIAN.

## PRICES :

|                               | No. 0 | No. 1 | No. 2 | No. 3 | No. 4 | No. 5 | No. 6 |      |
|-------------------------------|-------|-------|-------|-------|-------|-------|-------|------|
| Original Pattern, Seven sizes | ...   | ...   | 14/-  | 18/-  | 26/-  | 34/-  | 42 -  | 52/- |
| The American, Six sizes       | ...   | ...   | ...   | 20/-  | 28/-  | 38/-  | 44 -  | 54/- |
| The Canadian, Six sizes       | ...   | ...   | ...   | 22/-  | 30/-  | 40/-  | 50/-  | 60/- |

per doz.

## FELT CHEST PROTECTORS.

|           | No. 00 | No. 0 | No. 1 | No. 2 | No. 3 | No. 4 | No. 5 | No. 6 |
|-----------|--------|-------|-------|-------|-------|-------|-------|-------|
| Prices... | ...    | ...   | 4/-   | 6/-   | 8/-   | 10/-  | 12/-  | 16/-  |

All in Scarlet and White, and made in same Wool as the "Lung Protector."

Terms: All Wholesale Houses either allow a large Discount for Cash, or quote the goods at Reduced Net Cash prices.

FELT CHEST PROTECTORS, C QUALITY, single and double, each in five sizes.

At lower prices than above, and equal to BEST of other makers, but are NOT recommended.

**GEORGE PATTISON,**

INVENTOR AND MANUFACTURER,

139 ST. JOHN STREET ROAD, LONDON, E.C.

REGISTRED  
LUNG  
PROTECTOR  
TRADE MARK

## WHITE AND SOUND TEETH.

JEWSBURY AND BROWN'S  
ORIENTAL TOOTH PASTE.

This old-established and increasingly favourite Dentifrice has been Fifty Years before the Public. It is warranted to retain its properties and keep in good condition in any climate.

The original and only genuine is manufactured solely by

JEWSBURY and BROWN,  
CHEMISTS, MANCHESTER,

and is distinguishable by the Trade Mark, printed in red and green, a facsimile of which is annexed. Particular attention should be paid to this guarantee of genuineness, as numerous imitations are offered.

Sold universally by Chemists and Perfumers, at 1s. 6d. and 2s. 6d.

The Trade and Shippers supplied by the leading houses in London and elsewhere. Bills and Show Cards forwarded on receipt of address card, and directions for enclosure.

WOODS'  
ARECA NUT TOOTH PASTE.

For Removing Tartar and Whitening the Teeth, without injuring the Enamel. Sold in Pots, at 6d. and 1s. each.

## WOODS'

## QUININE, CANTHARIDINE, &amp; ROSEMARY HAIR CREAM

(WITH GREASE), Restores the Hair if weak or falling off.

Price 9d., 1s. 6d. and 3s. 6d. per bottle.

## WOODS'

## QUININE, CANTHARIDINE, &amp; ROSEMARY HAIR WASH

Similar to the above (without grease). Price 1s. 6d. and 3s. 6d. per bottle.

## WOODS' DANDRUFF POMADE.

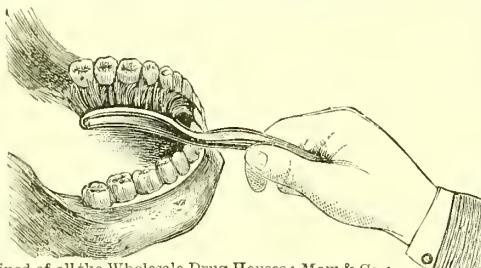
Never fails. 1s. per pot.

Proprietor: W. WOODS, M.P.S., Chemist, PLYMOUTH.  
SOLD WHOLESALE BY ALL LONDON HOUSES.

DR. PIERREPONT'S  
PATENT "THOROUGH CLEANSING" TEETH BRUSHES.

Common Sense Triumphant! OVER 20,000 SOLD IN SIX MONTHS.

Prices and Illustrated Circulars  
on application to any of the  
Wholesale Houses.



Can be obtained of all the Wholesale Drug Houses; Maw & Co.; Lynch & Co.; Barclay; Evans, Lescher & Co.; Newbery & Co.; Burgoine & Co.; Hovenden & Co.; &c., &c.

## Dr. C. R. Coffin's AMERICAN DENTIFRICE.

Prepared only by WILLIAM DARLING, Chemist, Manchester. May be had from S. Maw, Son, & Thompson; Barclay & Sons; F. Newbery & Sons; Sanger & Sons; and any Wholesale House in London. Price 2s. per Box, and Family Jars 10s. each.

OKELL'S ORIGINAL  
MONA BOUQUET

Retail, 1s., 1s. 6d., and 2s., Wholesale, 9d., 1s., and 2s., per doz. This much-admired Perfume (prepared by the Widow of the late Joseph Okell), may be obtained from the leading Patent Medicine Houses, Wholesale Druggists, and Druggists' Sundry Dealers.

Applications for WHOLESALE Agencies to be made to the SOLE CONSIGNEE, THOMAS WEST, Chemist, Stretford, Manchester.

BEDDARD'S  
BELGRAVIA TOOTH-PASTE

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Is entirely different from any article of the kind, very much liked by customers, a most effectual dentifrice, and handsomely put up in large jars,

ONE SHILLING EACH.

WHOLESALE OF ALL PATENT HOUSES.

LIBERAL DISCOUNT TO LARGE BUYERS.

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JOHN BEDDARD,

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TO DENTISTS AND CHEMISTS.—Every description of Artificial Teeth made at greatly reduced charges. Best work and best materials only.

An Upper or Lower Set, inclusive of Teeth Rubber, &c., £1 1s.

Ditto, ditto, on Platina, £2 2s.

Send for Price List.

Twenty years' experience in mechanical work.

LESSONS GIVEN IN MECHANICAL DENTISTRY.

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TRADE MARK P. A. STEVENS,

CHEMIST AND SURGEON DENTIST,  
70 Hyde Road, Hoxton,  
And 72 Mansfield Road,  
HAVERSTOCK HILL, N.W.

REGISTERED—NO. 3745.

PREPARED SILVERY WHITE GUTTA PERCHA ENAMEL,  
FOR STOPPING DECAYED TEETH.

SILVERY WHITE GUTTA PERCHA ENAMEL.  
36 squares in a box, to Retail at 1d. each; Wholesale Price, 1s. per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.  
On Show Card of half-gross, Retail at 1d., at 6s. per gross.

SILVERY WHITE GUTTA PERCHA ENAMEL.  
12 sticks in a glass-lid box, to Retail at 3d.; Wholesale Price, 1s. 3d. per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.  
12 sticks in a glass-lid box, each stick enclosed in a Gelatine or Gilt Case; Wholesale Price, 2s. per box.

SILVERY WHITE GUTTA PERCHA ENAMEL.  
12 boxes on a Show Card, to Retail at 6d. per box; Wholesale Price, 3s. 6d. per card in a box.

SILVERY WHITE GUTTA PERCHA ENAMEL.  
In 1 oz. Sheet, 12s. per dozen.

SILVERY WHITE GUTTA PERCHA ENAMEL.  
In 4 oz. Sheet, 3s. 6d. each.

P. A. S. can supply the above to Wholesale Houses, in any quantity, with their

Name stamped upon each piece, cut in sticks any length.

The above to be obtained of all Wholesale Houses. PRICE LIST AND

SAMPLES SENT POST FREE.

SPECIAL NOTICE.—The words SILVERY WHITE GUTTA PERCHA

ENAMEL are registered as a Trade Mark, and will be protected.

## MELBOURNE EXHIBITION, 1881, SILVER MEDAL.



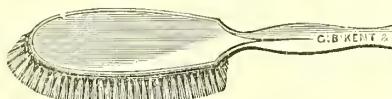
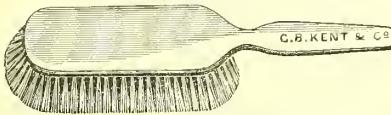
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WAREHOUSES—  
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## BRUSHES

## KENT'S HAIR BRUSHES

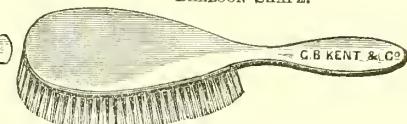
SQUAB SHAPE.



SKITTLE SHAPE.

FACTORIES—  
Bonner Road, Victoria  
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BALLOON SHAPE.



## KENT'S TOOTH BRUSHES

Are manufactured at their Factory at  
Victoria Park, expressly set apart for this  
one description of Brush.



Price per doz.

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|----------------|---------------|---------|-----|
| First Quality  | G.B.Kent & Co | London  | 6 6 |
| Second Quality | Imperial      | Quality | 5/0 |
| Third Quality  | WARRANTED     | LONDON  | 4/0 |
| Fourth Quality | WARRANTED     | SECURE  | 3/6 |
| Fifth Quality  | WARRANTED     | SOUND   | 3/0 |

Badger Hair Tooth Brushes .. .. 6 0 5/6 11/ per doz.  
Children's .. .. 1/2 3/6 1/0

Tooth Brush Guards .. .. Metal, 1/3 Porcelain, 4/6 "

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KENT'S CLOTH BRUSHES in WOOD or IVORY.

KENT'S HAT BRUSHES in WOOD or IVORY.

KENT'S FLESH BRUSHES, Handled or Webbed.

KENT'S SHAVING BRUSHES Badger Hair &c. &c.



Novelty for 1881.

G.B. KENT &amp; CO.

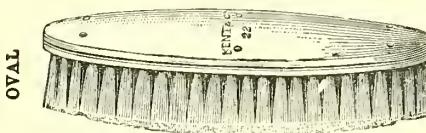
THE NOVELTY TOOTH BRUSH.  
TRIPLE CEMENTED AND EXTRA SECURE.  
Depot for America: 91 Fulton Street, NEW YORK.

THE NOVELTY TOOTH BRUSH.  
TRIPLE CEMENTED AND EXTRA SECURE.  
Depot for America: 91 Fulton Street, NEW YORK.



## KENT'S NAIL BRUSHES.

|                 |    |    |      |      |      |      |      |      |
|-----------------|----|----|------|------|------|------|------|------|
| Bent Back       | .. | .. | 4/0  | 7/0  | 8/6  | 10/6 | 12/0 | 14/8 |
| Round End       | .. | .. | 4/0  | 7/0  | 8/6  | 11/0 | 13/0 | 15/0 |
| Roached Grooved | .. | .. | 19/0 | 24/0 | 28/0 | 32/0 | 36/0 | 40/0 |



No. 22° 22 23 24  
8/6 13/0 17/6 22/0

Handled Nail Brushes .. 4/0 4/6 7/0 8/0 10/6 12/0 16/0 per doz.

Wood .. Trepanned 12/0 16/0 18/0 21/0 24/0 27/0 "

" .. Fibre 21/0 27/0 30/0 36/0 42/0 48/0 54/0 per grs.

KENT'S FITTED LEATHER CASES of various descriptions.

KENT'S HAND MIRRORS in Wood and Ivory.

KENT'S COMBS in Ivory, Shell, Indiarubber, &c.

KENT'S "NOVELTY" TOOTH BRUSH GUARD.

(Telescope pattern, silver-plated.)

G. B. KENT & SONS Illustrated Price List will be forwarded by post on application.

Is purely Vegetable,  
Strong, Uniform, and  
Bright.

# MCMASTER, HODGSON & CO'S IMPROVED FLUID EXTRACT OF ANNATTO

For imparting a rich  
and beautiful colour to  
Butter and Cheese.

Is guaranteed to be prepared from the pure colouring ingredient of the Spanish Annatto. Chemical Analysis and recent investigation prove that it possesses the highest degree of colouring power, perfectly clear, and a superior and brilliant tint.

# WARREN'S GENUINE "SWEET" ESSENCE OF RENNET

McMASTER, HODGSON & CO., DUBLIN, Copyright Proprietors and Original Manufacturers.

CAUTION.—None genuine unless the Copyright Proprietors' Name—McMASTER, HODGSON & CO.—is on each label.  
LONDON AGENTS:—Messrs. Barclay & Son, Crosse & Blackwell, Edwards & Son, Hovenden & Son, Lynch & Co.

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## GENUINE EMERY, EMERY CLOTH, AND BLACK LEAD.

## JOHN OAKES &amp; SONS,

MANUFACTURERS OF

Glass Paper, Emery and Glass Cloth; Emery, Black Lead, Pumice, Putty Powder, Crocus, Urn Powder, Tripoli, Rouge, Plate Powder, Steel Polish, Furniture Polish, Knife Boards, Brunswick and Berlin Black, &c.

## OAKES WELLINGTON KNIFE POLISH,

Prepared expressly for Oakey's Patent India-Rubber Knife Boards, Buff Leather Boards, and all the Patent Knife Cleaning Machines. Sold in Packets, 3d. each; and Tins, with perforated Tops to prevent waste, 6d., 1s., 2s. 6d., and 4s. each.

## OAKES NON-MERCURIAL SILVERSMITH'S SOAP,

For Cleaning and Polishing Silver, Plate Glass, Marble, &amp;c. Tablets, 6d. each.

## OAKES POLISHING PASTE,

For Cleaning Brass, Copper, Tin, Pewter, &amp;c., &amp;c. Boxes, 1d.; Tins, 2d.; Pots, 6d. and 1s. each.

## WELLINGTON BLOCK BLACK LEAD,

In 1d., 2d., and 4d. Blocks, and 1s. Boxes.

WELLINGTON EMERY &amp; BLACK LEAD MILLS, Westminster Bridge Road, London, S.E.

Highest Award and Prize Medal, Philadelphia Exhibition, 1876.

## "LA BRILLANTINE" METALLIC POWDER

For Cleaning and Polishing Metals and Glass (especially Brass).

PROPRIETORS—

J. F. BAUMGARTNER &amp; CO.,

22 NEWMAN STREET, OXFORD STREET,

LONDON, W.

Sold by all Wholesale Houses. *Beware of Imitations.*

## GOLD MEDAL, ADELAIDE, 1881. DIPLOMA OF MERIT, VIENNA, 1873. ORDER OF MERIT, MELBOURNE, 1880.

Needham's Joseph Pickering &amp; Sons (J. Needham), Albyn Works, Sheffield. Sheffield Knife

Polishing Paste,  
For Cleaning Brass  
Copper, and Britan  
Metal Goods, &c.Pickerings' Razor  
Paste,  
For Sharpening Razors, &c.Waterproof  
Harness Blacking,  
For Black Leather  
Harness.Powder,  
For Table Knives, Firs  
Irons, &c.Plate Powder,  
For Electro-plate  
Articles, &c.Furniture Polish,  
For cleaning French  
Polished Furniture, &c.Brunswick  
Black,  
For all kinds of  
Iron Work.

## H. BESSEMER'S GOLD PAINT.

## RETAIL PRICES:

|                                   |         |                       |         |
|-----------------------------------|---------|-----------------------|---------|
| Small Bottles of Gold with Liquid | 1s. 6d. | Large Bottles of Gold | 3s. 6d. |
| Medium ..                         | 2s. 6d. | Liquid ..             | 0s. 6d. |

To be obtained of all Chemists, Artists' Colourmen, and Druggists' Sundriesmen.

## NEW 1s. 6d. and 2s. 6d. PACKETS.

CONTENTS:—1 Bottle Gold Powder, 1 Bottle Mixing Liquid, 1 Mixing Bowl, 1 Brush, in Cardboard Box. Where the Bowl and Brush are not required, the usual 1s. 6d. Packet should be purchased, as it contains a larger quantity of both Gold and Liquid.

A Copper and Silver Paint, at the same prices, and yielding equally good results, can be obtained.

NOTICE.—The Gold Paint is so easy of application, economical in use, and excellent in appearance, that it is extensively employed in the Ornamental Gilding of Decorative Mouldings, Carvings, and all Fancy Ornaments made either of Metal, Wood, Porcelain, or Plaster, and the effect that can be produced, even by unskilled hands, makes it useful to all engaged in fancy or home embellishment.

Sole Proprietor, RICHARD J. ALLEN, Mansfield Place, Kentish Town, London, N.W.  
and Manufacturer.

If Translations are supplied, Circulars, Cards, or Labels will be printed in any language necessary for its sale.

# PAINTS. VARNISHES. WOOD STAINS.



VIENNA.

## READY-MIXED PAINTS.

Packed in 1, 2, 4, 7, and 14-lb. Tins.

## 25 USEFUL and SALEABLE TINTS,

Superior Colours, well packed, and guaranteed to Dry Well.

## HANDSOME SHOW BOARDS

(Framed and Glazed), with Specimens of the Colours, supplied.

## PRICES AND SAMPLE CARD ON APPLICATION.

## THOMAS S. JACKSON

MANUFACTURER OF

## OIL VARNISHES

(Every description).

### JAPANS

### BRUNSWICK AND BERLIN BLACKS.

### TEREBINE.

### FRENCH POLISH.

### WHITE AND BROWN HARD SPIRIT VARNISHES.

### KNOTTING.

### LACQUERS.

### DRYERS and GROUND COLOURS } of the finest quality.

### DRY COLOURS, all Prices and Shades.

### IMPORTERS OF OCHEE, ULTRAMARINE, &c.

## WOOD STAINS,

### "SPECIAL."

MAHOGANY, OAK, WALNUT, SATINWOOD,

ROSEWOOD, EBONY.

Draught, or packed in 6d. bottles ( $\frac{1}{2}$ -pint).

Also in powder.

## SHOW BOARDS,

With specimens of the Stained Woods, supplied.

The demand for these Stains is steadily increasing. They possess great richness and truth of colour, and

ARE OFFERED AT A REASONABLE PRICE.

NOTICE.—All communications should be addressed to the Office—

# LAYTON'S BUILDINGS, 199 HIGH STREET, SOUTHWARK, LONDON, S.E.

There is no connection with any firm of a similar name.

ESTABLISHED 1853.

LOUIS ROWLAND (late Lutschaunig &amp; Co.).



59 SOUTH JOHN STREET, LIVERPOOL.

## Goddard's Plate Powder

GOLD MEDAL AWARDED, NEW ZEALAND EXHIBITION, 1882.

For nearly Half a Century this Powder has sustained an unrivalled reputation throughout the United Kingdom and the Colonies as the BEST and SAFEST article for Cleaning Silver and Electroplated.

Sold in Boxes, 1s., 2s., 6d., and 4s. 6d. each. Also

### GODDARD'S FURNITURE CREAM,

Sold by all Patent Medicine Houses and Wholesale Druggists,  
Manufactured by J. GODDARD, Station St., Leicester.

## FOR CLEANING PLATE.

### BRADLEY & BOURDAS'S ALBATUM or WHITE ROUGE,

For Cleaning Gold, Silver, and Plated Goods.

Since its introduction as a substitute for the ordinary Rouge, a quarter of a century ago, the sale has amazingly increased both at home and abroad. A trial is only needed to prove its superiority over other plate powders in use. Sold in Boxes at 1s. and 2s.; Tins, 6s. 6 Pont Street, Belgrave Square, and 48 Belgrave Road, London, S.W.

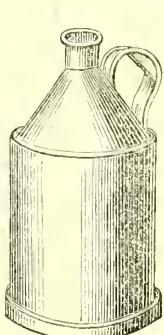
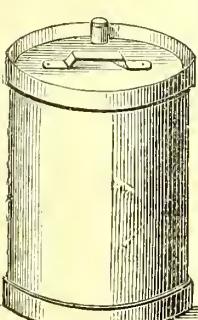
## W. B. WILLIAMSON & SONS, Providence Works, WORCESTER,

MANUFACTURERS OF

TIN CANISTERS to hold  
Coffee, Mustard, Tobacco,  
Snuff, Biscuits, Jam, Confectionery, Paint, and every  
other description of Dry or Fluid Material.  
Also Oil Bottles,  
Oil Cans, Cisterns,  
&c.

The PATENT for making  
PAINT TINS with LEAD TOPS.

Names, &c., of Customers stamped  
on covers of Tins if desired. Oil Bottles  
Price Lists can be forwarded  
on application. In writing  
for quotations for Canisters,  
please state size and probable quantity required.



BURROUGH'S

SPIRITUS RECTIFICATUS, P.B.

CHEMICALLY PURE.

# SPIRITS OF WINE.

The Best English Grain Spirit, Free from Fusel Oil.

66 over proof, 19s. 10d. per gallon; 60 over proof, 20s. 4d. per gallon for five gallons.

Lower quotations for quantities. Cash on delivery or with order. Country Orders must contain remittance or reference to London House.

## CALE STREET DISTILLERY, LONDON, S.W.

Also Duty Free for Exportation.

Best Methylated Spirits at Lowest Prices.

### TIN FOILS,

### METAL CAPSULES

### VEGETABLE PARCHMENT.

C. F. BROWN &amp; CO., 3 Tower Royal, LONDON, E.C.

### MORRISON & THEW

(Late C. F. THEW &amp; CO.).

### SHELLAC & GUM MERCHANTS,

DEALERS IN DYE STUFFS, & PAPER MERCHANTS,  
32a Faulkner St., Portland St., MANCHESTER.

Samples and Prices on application.

## PURE SPIRITS OF WINE

FOR

TINCTURES, ESSENCES, PERFUMES, &amp;c.,

### OXFORD ROAD DISTILLERY, MANCHESTER.

#### MESSRS. SMITH & GIBB

Beg to call the attention of CHEMISTS and DRUGGISTS to the under-mentioned Prices of Pure Spirits of Wine:—

| Strength per cent. | Specific Gravity. | Price per gallon. |
|--------------------|-------------------|-------------------|
| 63 over proof ..   | 0·8238            | 20·10             |
| 60 ..              | 0·8298            | 20·4              |
| 55 ..              | 0·8368            | 19·10             |
| 50 ..              | 0·8482            | 19·4              |

Terms—Cash on Delivery. Jars to be returned or paid for.

For Exportation, Cask included, 4/0, 60 O.P., F.O.B.

Orders from the country must be accompanied with a remittance, including the price of the Jars, which are charged as follows:—2 gallons 3/-; 3 gallons, 3/6; 4 gallons, 4/-; 5 gallons, 5/6; 6 gallons, 6/-. When the empties are returned the money will be repaid.

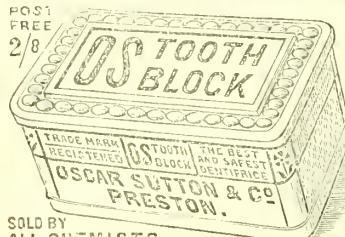
REGISTERED



TRADE MARK.

## OSCAR SUTTON & CO.,

### BEST & SAFEST DENTIFRICE



SOLD BY ALL CHEMISTS.

This celebrated Dentifrice is recognised by leading Dentists as the most efficient for exterminating *Leptothrix buccalis*, and for thorough CLEANSING PROPERTIES.

## PRESTON.

### BEST & SAFEST DENTIFRICE

SOLD BY ALL CHEMISTS, IN ELEGANT CRYSTAL TOILET CASKET

PRICE 2/6.

ALSO IN PATENT METALLIC BOX

PRICE 1/-



The "British Journal of Dental Science" says:

"We have used this Dentifrice with so much comfort and satisfaction that we have no hesitation whatever in recommending it strongly to the notice of our readers."

The "Chemist and Druggist" says:

"Comounded of materials which make a very agreeable dentifrice, clean the teeth thoroughly well, and the convenient style in which they are supplied adds to their attractiveness."

Sold by all the leading Wholesale Houses.

OSCAR SUTTON'S O.S. TOOTH BLOCKS keep good for any time in any climate. They may be had of Messrs. BROWN &amp; CO., Birmingham; R. Hovenden &amp; Sons; Lynch &amp; Co.; Maw, Son &amp; Thompson, F. Newbery &amp; Sons; &amp; K. &amp; J. Edwards &amp; Son, LONDON; Feltin, Grimwade &amp; Co.; Roche, Ternissitt &amp; Co., MELBOURNE; John Herens, Dunedin—NEW ZEALAND; Jas. Purves—VALPARAISO; Hy. Pintock &amp; Co.—JAMAICA.

## THE UNIVERSAL TOOTHACHE SYRINGE

Retail,  
6d. each.Wholesale;  
4s. per dozen.

Is a great improvement upon the "DENTAL SYRINGE," as the fluid is contained in a glass bulb, which enables its contents to be seen, also prevents the liability to evaporation through long keeping or exposure.

## THE UNIVERSAL CORN AND WART PENCIL.

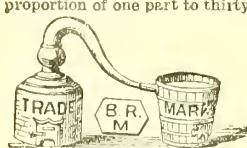
1 doz. mounted on a handsome Illustrated Show-Card, Retail, 6d. each; Wholesale, 3s. 6d. per doz. It is especially adapted for Export Trade, and may be safely sent to the hottest climates, as each glass tube is hermetically sealed and enclosed in a card board case.

N.B.—Both the above are exempt from Stamp Duty by permission of the Board of Inland Revenue.

**CONCENTRATED WATERS.**—One Ounce of these Waters added to Forty Ounces of Distilled Water forms a clear Medicated Water (without filtering), similar in every respect to those prepared according to the directions of the British Pharmacopoeia, and free from all Chemical impurity. They are prepared to supply a want long felt by Chemists and Medical Men, and by their uses fresh supply of any of the Medicinal Waters may be obtained at a moment's notice. They are not affected by age in any climate. N.B.—Used in the proportion of one part to thirty-two of water they represent the Medicinal Waters of the *United States Pharmacopoeia*.

|                       | Per lb. | Per lb.                    | Per lb. | Per lb.                  |      |
|-----------------------|---------|----------------------------|---------|--------------------------|------|
| Aqua Anethi, Concent. | 4/0     | Aqua Cinnam. Ver. Concent. | 6/0     | Aqua Freniculi, Concent. | 4/0  |
| " Anisi, "            | 4/0     | " Cassia "                 | 4/0     | " Menth. Pip. "          | 4/0  |
| " Camphora "          | 4/0     | " Flor. Aurent. "          | 8/6     | " Ang. Con. "            | 6/0  |
| " Carui "             | 4/0     | " Flor. Sambuci "          | 8/6     | " Rossa Virgin "         | 10/6 |

The above are put up in Bottles of 1lb. or 1lb. and upwards, each of which has the Inventor's Protection Label over cork. Wholesale Agents—Hearon &amp; Co., Maw, Son, &amp; Thompson, Lynch &amp; Co., London; Evans, Sons &amp; Co., Raimes, Liverpool; Woolley, Manchester; Bewley &amp; Draper, Hunt &amp; Co., Duhlin; Glasgow Apothecaries' Co., Hatrik &amp; Co., Glasgow; Raimes &amp; Co., Duncan Flockhart &amp; Co., Edinburgh; Foggit, Thirsk; Goodall &amp; Co., Leeds; Slinger &amp; Son, York; McKesson &amp; Robbins, New York. Special terms for large quantities may be had from

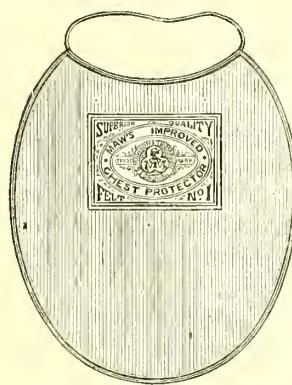
**B. ROBINSON**, Distiller and Brewer of British Wines, Church St., Pendleton, Manchester.

# FELT CHEST PROTECTORS.

## SINGLE.

| No. | BEST. |    | SECOND. |    |
|-----|-------|----|---------|----|
|     | s.    | d. | s.      | d. |
| 1.  | 7     | 6  | 6       | 6  |
| 2.  | 9     | 6  | 8       | 0  |
| 3.  | 11    | 6  | 9       | 6  |
| 4.  | 14    | 0  | 11      | 6  |
| 5.  | 20    | 0  | 15      | 6  |

PER DOZEN.



## DOUBLE.

| No. | BEST. |    | SECOND. |    |
|-----|-------|----|---------|----|
|     | s.    | d. | s.      | d. |
| 1.  | 17    | 0  | 14      | 6  |
| 2.  | 22    | 6  | 18      | 6  |
| 3.  | 28    | 0  | 23      | 0  |
| 4.  | 34    | 0  | 28      | 0  |
| 5.  | 45    | 0  | 36      | 0  |

PER DOZEN.

**Best—All Scarlet, or assorted Scarlet and White.**  
**Second Quality—All Scarlet.**

## S. MAW, SON & THOMPSON, LONDON.



**MAW'S**

IMPROVED

## EARTHENWARE INHALER, EARTHENWARE INHALER,

36s. per dozen.

With Elastic Tube and extra Glass Mouthpiece, 54s. per dozen.

**MAW'S**

DOUBLED-VALVED

60s. per dozen.

Ditto, with Elastic Tube, 78s. per dozen.

## S. MAW, SON & THOMPSON, LONDON.

## INDISPENSABLE IN EVERY LAUNDRY.

**HARROP'S**  
**LINEN GLAZE**

**GLOSS & STIFFNESS**

Add one  
teaspoonful  
to each pint  
of Starch, and  
beat well  
together until  
thoroughly mixed

REGISTERED TRADE MARK ONLY BY CHEMIST. CREWE

REGISTERED NO. 22149

For starching collars, cuffs, and all fine linen fabrics. It is suitable for hot or cold water starch.

PREPARED  
W.H. HARROP.

Prevents the Iron sticking to the Linen, and puts the same amount of finish on the Linen as when fresh from the manufacturers' hands.

ALWAYS SATISFACTORY.

**CAUTION.**—Each Packet and Box bears my Registered Trade Mark as annexed.

Sold in 1d., 3d., 6d., and 1s. Packets, and in large Boxes, for Hotels, Laundries, &c., 5s., 10s., and 20s. each.

May be had Wholesale from S. MAW & SONS, BOURNE & TAYLOR, HODGKINSON, STEAD & TREACHER, and BURGOYNE, BURBIDGES & CO., London, or from the Sole Manufacturer.



Highest Award, Philadelphia, 1876. Gold Medal, Berlin, 1877. Highest Award and only Medal, Paris Exhibition, 1878. Highest Award, Melbourne, 1881. Highest Award and only Medal, Frankfort, 1881.



## BROWN'S SATIN POLISH

Put on by Sponge attached to Wire and Cork in each Bottle. No Polish-brush required. Dries in a few minutes. Can be used by any lady without soiling her fingers.

The "Satin Polish" is the most elegant Article of the kind ever produced. LADIES' SHOES, which have become Red and Rough by wearing, are restored to their ORIGINAL COLOUR and LUSTRE, and will not soil the skirts when wet. TARNISHED PATENT LEATHER is improved by it.

For Travelling Bags, Trunks, Harness, Carriage Tops, &c., it is unequalled. It will not harden the Leather nor crack. It is not a spirit varnish. In Cartons, 4s. 6d. per dozen; 52s. per gross. Packed in Sawdust, 3s. 9d. per doz.; 43s. per gross. 2½%.



## AMERICAN MAGIC BRONZE

Is the best in the Market, and it can be used with good effect on Ornaments, Picture Frames, Iron and Fancy Work generally, as well as for Boots and Shoes. In Cartons, 7s. per dozen. 2½%.

**SOLD BY ALL WHOLESALE CHEMISTS AND DRUGGISTS' SUNDRIESMEN.**

Factories: BOSTON: MONTREAL: 18 & 20 Norman's Buildings, ST. LUKE'S, LONDON.

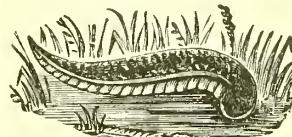
## SPONGE.

**M. PETERSON & CO., Importers,**  
66 SOUTH JOHN STREET,

## LIVERPOOL.

For Home, Foreign, and Colonial Markets.  
Wholesale only.

### HAMBURG SPICKLED.



## LEECHES!

Warranted Healthy, Wholesale and for Exportation, Direct from Marshes.

**FITCH & NOTTINGHAM,**  
Leech Breeders,

MARSEILLES, & 55 PENTONVILLE  
ROAD, LONDON, N.

All orders by Post receive immediate attention.

## SANDS' STANDARD DYES

Are the First and the Best; the Finest Dye and largest Package. 1d. Packets, on Cards, at 7/- per gross; 3d. Packets, 21/- per gross; 6d. Packets, 42/- per gross. And Ebonised Counter Cases, containing 1 gross 1d., at 7/-, 7/-, ½ gross 3/-, at 21/-, 10/-; ¼ gross 6d., at 42/-, 10/- for 28/- complete, no charge for case.

## SANDS' GOLD PAINT.

Retails at 1/- complete, containing, in box. Gold Powder, Mixing Liquid, Brush, and Palette. 8/- per dozen. Finds a ready sale everywhere, being applicable to so many purposes which suggest themselves. Larger sizes much more economical—3/6 size, 30/- per doz.; 10/6 size, 84/- per doz.

## EDISON'S STARCH ENAMEL.

1d., 3d., and 6d. Packets.

PRICE LISTS OF OTHER GOODS SENT FREE ON APPLICATION ENCLASING TRADE CARD.  
All Goods bear a handsome profit, and any unsaleable exchanged.

**SANDS MANUFACTURING COMPANY,**  
**REMOVED TO**  
**66 GOLDHAWK ROAD, SHEPHERD'S BUSH, LONDON, W.**

# SINAPISMES PARISIENS.

Medals at Universal Exposition, Paris, 1878; Melun, 1880; Bordeaux, 1882.

Manufactured by M. POURRET,

PHARMACIEN OF THE HIGHEST CLASS OF THE ECOLE DE PHARMACIE DE PARIS.



## STEAM MANUFACTORY AT PARIS.



Specially Prepared with the Names and Addresses of Pharmacists.

Each 1,000 leaves of the Sinapismes ordered will be accompanied by a very handsome chromo-lithograph, bearing the name of the retail pharmacist only, with an announcement to the public enumerating the advantages of the Sinapisme.

When desired by buyers we reproduce without extra charge all trade marks, medals, coats of arms, &c. We also undertake to print on the back of each Sinapisme the name of the retailer, with an advertisement of his specialities or other products, and to enclose a circular in each box of ten leaves.

We commend to the attention of pharmacists these Sinapismes bearing their own names, and we guarantee to supply an article of the highest quality.

Besides supplying the public with an excellent Sinapisme the pharmacist secures the double advantage of advertising his name and address, as well as his special products, without extra charge.

The Sinapismes are put up as required in packets of 10, 25, or 100 leaves, in very handsome varnished tin boxes, ornamented with vignettes, and bearing the directions for use.

If 5,000 boxes are ordered we undertake to place the name of the buyer on each box. All packages are free, and orders exceeding £6 are sent carriage free.

WE PRINT IN EVERY LANGUAGE.  
PRICE CURRENT.

### SINAPISMES PARISIENS WITHOUT THE NAME.

|                                |                         |
|--------------------------------|-------------------------|
| Boxes of 10 leaves .. .. .. .. | 6f. 70c., about 0s. 7d. |
| ” 25 ” .. .. .. ..             | 1f. 35c. .. 1s. 1½d.    |
| ” 100 ” .. .. .. ..            | 5f. 00c. .. 4s. 0d.     |

### SINAPISMES WITH THE NAME OF RETAILER.

|                                |                         |
|--------------------------------|-------------------------|
| Boxes of 10 leaves .. .. .. .. | 0f. 75c., about 0s. 7d. |
| ” 25 ” .. .. .. ..             | 1f. 50c. .. 1s. 3d.     |
| ” 100 ” .. .. .. ..            | 5f. 50c. .. 4s. 7d.     |

*For this kind orders must be for not less than 1,000 leaves.*

## MUSTARD FLOUR

Prepared for Veterinary Use. In Varnished and Gilt Metallic Boxes of 500 grammes (about 17 ounces), at 1f. 50c. (about 1s. 3d.) per box.

we Guarantee the greatest revulsive effect and excellent keeping quality.

Each Box bears directions for preparing and using Mustard Plasters.

Orders or applications for  
Samples to be addressed to

LELASSEUR & CO., 40 Rue de la Verrerie. PARIS.

## ALLCHIN'S SMELLING SALTS.

The increasing demand for these celebrated Smelling Salts has induced the Proprietor to bring them out in a more portable and elegant form than hitherto supplied. The New-shaped Bottles will be found well worth the attention of the Trade.

|   |                   |
|---|-------------------|
| WHITE FLINT GLASS, Handsomely Cut, 3 Sizes, Retail .. .. .. | 1 6, 2 1/2, 2 6   |
| ” ” ” Watch Shape, for the Pocket, 3 Sizes, Retail .. .. .. | 1 1/2, 1 6, 2 1/2 |

### ALFRED ALLCHIN'S PHARMACEUTICAL PREPARATIONS.

**SMELLING SALTS.**—The MONOCARBONATE OF AMMONIA, manufactured by ALFRED ALLCHIN, is the Neutral Salt so much valued for the preparation of Smelling Salts. It retains its pungency as long as any Salt remains. 1-lb. bottles, 2s. 8d. each.

**LIQ. AMMON. ODORIF., or VOLATILE ESS.**, for Allchin's Ammon. Monocarb. In Stoppered Bottles, 4-oz., 1s. 8d.; 8-oz., 3s.; 16-oz., 6s. each.

**PUNGENTS**, with handsome Cut Stoppers, filled with Allchin's Smelling Salts, 8s. per doz.; retail, 1s.

**OL. ROSÆ CONCENT.**—One ounce of this Concentrated Solution of Anchusine, mixed with two pounds of Oil, will give it the usual colour; it is also admirably adapted for colouring Pomades, Lip Salve, Camphor Balls, &c. 4s. per lb.

**OL. FLAV. CONC.**—One ounce, added to two pounds of Pomade, will give the usual golden colour, which is permanent. 4s. per lb.

Sole Proprietors—

W. BUSH & CO. (late Allchin), Chemists, 180 Barnsbury Road, London.  
TO BE HAD OF ALL THE WHOLESALE HOUSES.

ESTABLISHED 1849.

## CURRY, LLOYD & CO.

(Late ALLEN PEARCE & CO.),

## DRUGGISTS' SUNDRYMEN,

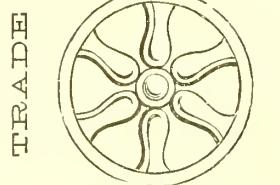
TRUSS AND SURGICAL APPLIANCE MAKERS,

10 and 11 BATH STREET, BRISTOL.

NEW PRICE LIST (1882) WILL BE SENT ON RECEIPT OF BUSINESS CARD.

# PAUL METZ,

10 JEWIN STREET,  
LONDON, E.C.



## BEST QUALITY WHITE WILLOW BOXES,

Cardboard Boxes of all Sizes and Shapes.

CAMEL-HAIR PENCILS, SASH-TOOLS, &c.

Chemical Glass & Porcelain Apparatus, Thermometers, &c.

## SUPERIOR GERMAN MUSTARD LEAVES.

Aperient Tamarind Lozenges & Tamarind Fruit Conserves.

*Detailed Price Lists sent on application.*

MEDICATED  
DISINFECTING  
PERFUMED.

Approved by the  
Faculty.

SOLD BY ALL  
Chemists, Stationers,  
Perfumers,  
Family Grocers,  
AND  
Italian Warehousemen.

HOUSEHOLD PAPER

FOR  
LAVATORY AND TOILET USE.  
PRICE ONE SHILLING PER PACKET.  
GLASGOW AND LONDON.

# CRAVEN'S VERMIN POISON

In Packets, 2d., 3d., 6d., and 1s.

Chemists who have not yet tried "CRAVEN'S VERMIN POISON" are respectfully requested to send Trial Order.

Sold by most of the London and Provincial Wholesale Houses, or sent direct, carriage paid. Very liberal terms.



SAMPLES AND TESTIMONIALS POST FREE.

F. CRAVEN. Chemist. Batley Carr, DEWSBURY.

"FOR PIGS IN HEALTH, FOR PIGS IN DISEASE."

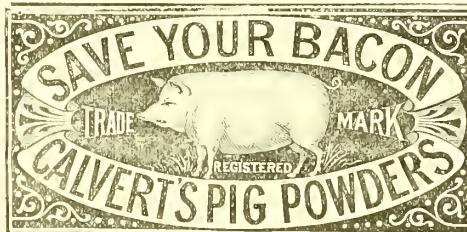
## CALVERT'S PIG POWDERS

Are a certain remedy for all ailments to which Swine are subject (especially Swine Fever).

They allow a fair margin of profit to the retailer. Wholesale and Export of Patent Medicine Houses, or Proprietor—

J. H. CALVERT, 57 Geneva Road, BRIXTON, LONDON, S.W.

*Beware of Spurious Imitations. Each Powder protected by the Registered Trade Mark.*



## OIL LAVENDER "MONT BLANC."

Messrs. CLAUDE REYNAUD & CO. (Grasse), Dépôt 16 Rue de l'Echiquier, Paris, having imported the Lavender plant from Mitcham, and giving the cultivation of it their special attention, have succeeded in producing an Oil of Lavender which is considered equal to that of Mitcham, and are now prepared to offer it in 1 kilo. tins and upwards at 12s. per lb. Our other Specialities are

## POMADE EXTRACT OIL.—ROSE AND ORANGE FLOWER WATER, &c.

Sole Agent, G. V. DE LUCA, 6 & 7 Long Lane, E.C. Depot, NEWBERRY & SON, 1 King Edward St., E.C.

"THE MOTHER BRAND."



TRADE MARK (REGISTERED).

### Sold in Cases of Two Dozen Tins.

Should any Chemist be willing to stock the above, Messrs. R. Lehmann & Co. will have much pleasure in furnishing him with samples, accompanied by introductory letter, for each of his medical men, free of charge. Write to

**R. LEHMANN & CO., Sole Importers, 106 FENCHURCH ST., LONDON, E.C.**

Gold Medal, Paris, 1873.

First Degree of Merit and Medals, Sydney, 1880, Melbourne, 1881.

# FRY'S COCOA EXTRACT

Is guaranteed to be perfectly pure Cocoa only, the superfluous oil extracted.

"If properly prepared, there is no nicer or more wholesome preparation of Cocoa"—DR. HASSALL.

"Strictly pure, and well manufactured in every way."—W. W. STODDART, F.I.C., F.C.S., *City Analyst*.

Try also FRY'S CARACAS COCOA.—"A delicious preparation."

**J. S. FRY & SONS, BRISTOL AND LONDON.**

### CHEMISTS' TEA AGENCY.

**WALKER & DALRYMPLE'S**

BROKEN-LEAF TEA, 1s. 8d. per lb.

A MONEY SAVING TEA. ABSOLUTELY PURE.

The small leaf from some of the finest India and China Teas. Produces a Tea in the cup, stronger, richer, and cheaper than most whole-leaf Teas. Agents appointed, where unrepresented, throughout the United Kingdom.

**WALKER & DALRYMPLE'S**

INTERMEDIATE TEA, 2s. per lb.

BEST at the PRICE EVER SOLD. Great strength and a most useful Tea where there is a large consumption. Recommended to all who wish to SAVE in their Tea. Agents appointed, where unrepresented, throughout the United Kingdom.

**WALKER & DALRYMPLE'S TEAS.—** AGENTS APPOINTED, where unrepresented, throughout the United Kingdom.

Prospectus and Samples Free on Application.

Warehouses, 154 and 155 WHITECHAPEL ROAD, LONDON.  
P.O. payable at head office. Bankers, the National Provincial Bank of England.

# ETTLI'S FOOD

(SWISS MILK FOOD),  
FOR INFANTS, CHILDREN, AND INVALIDS.

Used in all the Leading London and Country Hospitals for Children.

"By its use infant mortality should be reduced to a minimum."—R. S. G., M.D.

"I have ordered Ettli's Food invariably with benefit."—C. T. B., M.D.

"Infants and children thrive on it marvellously."—S. B., M.D.

"It is the best form of artificial food I have yet had occasion to try."—

W. C. G., M.D.

See *The Lancet*, 11th March, 1882, for full Testimonials.

### WHOLESALE AGENTS.

F. NEWBERY & SONS,

J. SANGER & SONS,

R. HOVENDEN & SONS,

BARCLAY & SONS,

W. SUTTON & CO., Bow Churchyard

S. MAW, SON & THOMPSON,

DUNCAN, FLOCKHART & CO.,

J. MACKAY & CO.,

CLARK & PINKERTON,

JAS. SIM & CO.,

LONDON.

EDINBURGH.

ABERDEEN.

PREPARED BY THE SWISS MILK AND FOOD COMPANY.

*Mediterranean  
Oriental  
African  
American  
Australian  
New Zealand  
South African  
South American  
Chinese  
Japanese  
Australian  
New Zealand  
South African  
South American  
Chinese  
Japanese*

### THE WELL-KNOWN "LONDON TEAS" ARE ONLY SUPPLIED WHOLESALE BY THE GREAT TOWER ST. TEA CO. (LIMITED).

|                                    |                           |
|------------------------------------|---------------------------|
| Siftings from Fine Tea             | for Retail at 1/4 per lb. |
| The London Whole-Leaf Tea          | " 1/8 "                   |
| The London Broken Tea              | " 1/8 "                   |
| The London Two-Shilling Tea        | " 2/- "                   |
| The London Two-Shilling Indian Tea | " 2/- "                   |
| The London Assam Broken Tea        | " 2/8 "                   |
|                                    | AND OTHER FINER BLENDS.   |

Order a small Sample Parcel. The Quality never deteriorates.

A. HORATIO JONES, Managing Director.

**The Great Tower Street Tea Co. (Limited), 39 Great Tower Street, London, E.C.**

# WHITE FELT CORN AND BUNION PLASTERS.

SOLPORT BROTHERS, 68 Shaftesbury St., New North Road, LONDON, N.

ESTABLISHED 27 YEARS.

SOLPORT BROTHERS are the ORIGINAL MANUFACTURERS of the only genuine White Felt Corn and Bunion Plasters.  
PRICE LISTS ON APPLICATION.

ASK FOR  
**RAMORNE**  
BRAND.  
AUSTRALIAN  
MEAT CO.,  
9 & 11 Fenchurch  
Avenue,  
LONDON.

## LIEBIG'S EXTRACT OF MEAT.

|                         |               |                         |               |
|-------------------------|---------------|-------------------------|---------------|
| 7-lb. tins, 7/- per lb. | 49/- per doz. | 4-oz. jars, 7/9 per lb. | 23/8 per doz. |
| 1-lb. jars, 7/3 "       | 87/- "        | 2-oz. jars, 8/3 "       | 12/4 "        |
| ½-lb. jars, 7/6 "       | 45/- "        | 1-oz. jars, 9/- "       | 6/9 "         |

10 per cent. Discount off 50-lb. Orders. 10 lbs. Carriage Free.

NOTE PRICE

SILVER MEDAL, NEW ZEALAND, 1882.

The only one awarded for DANDELION COFFEE.

## PHILLIPS & SONS' DANDELION COFFEE.

Castle Square, SWANSEA; 12 Arthur Street West, LONDON BRIDGE.

*Be particular in noting London Address, as we have no connection with a Retail Firm of same name.*

## M. A. CRAVEN & SON, WHOLESALE AND EXPORT CONFECTIONERS,

MAKERS OF

Medicated Lozenges, Refined Liquorice, Jujubes, and every description of Confectionery,

IMPORTERS AND MANUFACTURERS OF LEMON, ORANGE, AND CITRON PEELS.

## EBOR CONFECTIONERY WORKS, YORK.

*Lozenges of all descriptions made from Customers' private formulæ (or ingredients), and stamped with any name or device.*

SPECIALITIES—Cough, Peppermint, Rose, Musk, Bouquet, Cachou, and all kinds of Medicated Lozenges.  
ESTABLISHED 1843.

PRICE LIST ON APPLICATION.

## MAWER'S TARAXACUM COFFEE,

Prepared by an improved process by which the virtues of the Taraxacum or Dandelion Root are retained in a high degree.  
In Tins, 6d., 9d., 1s., and 1s. 6d.

Is by far the best in the market. Excellent in quality, neatly packed, cheap and economical, and a very salable article. Wherever this superior preparation is introduced, Chemists find a ready and increasing sale.

AGENTS WANTED THROUGHOUT ENGLAND AND THE COLONIES.

A LARGE BUYER writes:—“Our customers ask for Mawer's Taraxacum, and will have no other, and we are doing well with it.”

A NOBLE EARL, the oldest in the House of Peers, sends the following message:—“Present my compliments to Messrs. Mawer, and tell them I like their Taraxacum, and it agrees with me very well; and request them to send the usual number of tins.”

SOLD BY CHEMISTS EVERYWHERE, AND BY NEARLY ALL FIRST-CLASS HOUSES.  
London Agents: Messrs. Sanger & Sons, Barclay & Sons, Edwards & Son.

### BEWARE OF IMITATIONS.

MAWER'S TARAXACUM COFFEE.

To *testimonial*.—“Lady Charlotte Holburne has tried Mr. Mawer's Taraxacum Coffee for over a year and a half, and is able to say that it is much preferred here to the other kinds of Coffee, and that it is found more economical.”—Hampden House, Bucks.”

IMPORTANT MEDICAL TESTIMONY.

“I believe Mawer's Taraxacum Coffee to be a very useful preparation for persons suffering with weakly stomachs or sluggish and inactive livers. It is light, and easily digested, and forms a pleasant and palatable beverage for breakfast or supper.”—HENRY R. RUCKLEY, L.R.C.S.I., L.R.C.P.E., &c., &c.

See Analytical Report by Professor ATTFIELD, F.R.S., &c., Prof. of Practical Chemistry to the Pharmaceutical Society of Great Britain, on every tin.

Terms and Price Lists, Handbills, &c., sent on application to the Manufacturers,

MAWER, EMERY & CO., LEIGHTON BUZZARD.





# MAW'S SAUCE PIQUANTE,

For Chops, Steaks, Cutlets, Hot or Cold Meat, Fish, Game, Soups, Gravies, Salad, Cheese, &c.

PRICE TO THE TRADE, 9s. & 15s. per doz.  
10 per cent. and 5 per cent. Cash Monthly.

S. MAW, SON & THOMPSON, LONDON.

E. LAZENBY & SON (6 EDWARDS STREET, PORTMAN SQUARE.) Sole Proprietors of the Celebrated Receipts and Manufacturers of the Pickles, Sauces and Condiments so long and favourably distinguished by their name, beg to remind the public that their labels are affixed to the choicest description of goods only, that every article prepared by them is guaranteed as entirely unadulterated and may be obtained of Grocers, Italian Warehousemen and others.

HARVEY'S SAUCE.—CAUTION.—The admirers of this Celebrated Sauce are particularly requested to observe that each bottle bears the well-known label signed "ELIZABETH LAZENBY"; this label is protected by perpetual injunction in Chancery of the 9th July 1858 and without it none can be genuine.

18 TRINITY STREET, LONDON. S.E.

*Elizabeth Lazenby*

20s. for a QUARTER-CASK,

i.e., 12½ GALLONS (CASKS FREE), of

## TYRER'S "BOROUGH" KETCHUP.

The following Editorial Notice is taken from the "Chemists' Journal."

"We have thoroughly tested Mr. Tyrer's 'Borough Ketchup,' both in the laboratory and in the kitchen. Viewed under the microscope with a power of 450 diameters, the 'Borough Ketchup' presents the appearance of a homogeneous dark brown liquid. Passed through a greased copper filter very little sediment was deposited. A microscopical examination of this deposit under the same power showed most conclusively that Mr. Tyrer's preparation is free from the 'mashed up toast,' 'decayed fish,' 'mildew,' and 'broken twigs,' found by Mr. G. Worthington Smith, the distinguished mycologist, in the common ketchup sold in London. The proof of the pudding, however, is in the eating, and whether taken alone or in sauces &c. we personally testify that Mr. Tyrer's 'Borough Ketchup' is delicious, and that it would puzzle the finest palate to discover any difference between it and the finest brands in the market. As a legitimate article for sale, especially in the provinces, we heartily recommend Mr. Tyrer's pleasant condiment."

A Sample Gallon (bottle free) sent, carriage paid, within Carter Paterson's radius on receipt of 2s. 6d., or to any wholesale house in London for enclosure.

PETER TYRER, 70 Long Lane, Borough, LONDON, S.E.  
CHEQUES AND P.O. ORDERS TO BE CROSSED, "CENTRAL BANK."

*Please enclose this paper.*

### SPECIAL NOTICE & CAUTION.

BRAND & CO.

The Original Manufacturers of Essence of Beef (green label under wrapper), and other Specialities for Invalids, have

**NOT REMOVED**

From their SOLE ADDRESS, No. 11  
LITTLE STANHOPE STREET, MAY-  
FAIR, W, and caution the trade to

**BEWARE of IMITATIONS.**

**BRAND & CO'S**  
ESTD 1835  
**SPECIALTIES FOR INVALIDS**

ESSENCES OF BEEF, LITTLE STANHOPE ST. W.  
MUTTON, YEAL & CHICKEN,  
BEEF TEA, TURTLE SOUP & JELLY,  
MEAT LOZENGES &c.

SOLE ADDRESS  
No. 11  
LITTLE STANHOPE  
ST. W.

PERCY BROTHERS' NEW PREPARATION,  
**MALTED DANDELION COFFEE.**

*Every Chemist dealing in Coffees should apply at once for particulars of this most attractive article.*

**PERCY BROTHERS, Coffee Merchants,  
LONDON AND TRURO.**

ALL COMMUNICATIONS TO BE ADDRESSED TO THE MANUFACTORY, TRURO.

WARRANTED THE BEST ARTICLE OF THE KIND IN THE MARKET.

**SEVEN INJUNCTIONS** have been granted during the past few months.



NOTICE IS HEREBY GIVEN that in several actions instituted by Messrs. GOODALL, BACKHOUSE & CO., of LEEDS, Injunctions have been recently granted by Judges of the Chancery Division of the High Court of Judicature, restraining several persons from using several Counterfeits of Messrs. GOODALL, BACKHOUSE & CO.'s Labels, and in particular against the use of the words "YORKSHIRE RELISH." The sole and exclusive right to the use of which words having been finally established by the above Firm, they will take immediate proceedings against parties manufacturing or offering for sale Sauce under the above title, not being of the manufacture of Messrs. GOODALL, BACKHOUSE & CO.

Information may be given to the undersigned,

J. SEYMOUR SALAMAN

12 KING STREET, CHEAPSIDE, LONDON.

*Solicitor to the Trade Mark Protection Society.*

# CONROY'S MALT COFFEE.



The *Globe* says:—"There are, we know, several so-called 'coffees' whose disappearance would be no loss to the British public. These are, for the most part, coffee only in name, a very small portion of the fragrant berry being mixed with ingredients which have no sort of claim to public favour. MALT COFFEE, on the contrary, should be both whole-some and invigorating, if the constituents are what the name implies. Each is beneficial in its own way to the human constitution, and the combination ought, therefore, to improve the health of those who consume it."

The *Morning Post* says:—“The public should consider their own interests, and either insist upon purchasing only coffee which is guaranteed to be absolutely free from chicory, or, if economy is the first thing to be considered, purchase only such mixtures of coffee as retain the especial qualities upon which the value of coffee depends. MALT COFFEE, the new temperance beverage, would seem to make the nearest approach to what is required. Pure malt is in its own way as beneficial as pure coffee, being especially strengthening and nutritious.”

Contains about 75 per cent. PURE COFFEE.

Malted by a Patent Process.  
Consists solely of Coffee and Malt  
Flavour equal to finest Coffee.  
Doctors recommend it.

Contains all the valuable principles of Malt.

More nutritious than Beer or Porter.  
Causes no unpleasant eructations.  
Promotes sound and healthy digestion.  
Breakfast Beverage *par excellence*.

IT IS MADE IN THE SAME WAY AS ORDINARY COFFEE.

*Pamphlets containing Testimonials from Eminent Scientific, Medical, and other Gentlemen of the highest position, may be had Free for Gratuitous Distribution.*

In cases of 56lbs. each, put up only in 1lb. and  $\frac{1}{2}$ lb. tins. Each Tin is protected by an Excise Stamp under the Regulations of the new Inland Revenue Bill of August 3, 1882.

PREPARED ONLY AT THE

**MALT COFFEE WORKS, 34 FLEET STREET, LIVERPOOL.**

EVANS, SONS & CO., 56 Hanover Street, LIVERPOOL.  
EVANS, LESCHER & WEBB, 69 Bartholomew Close, LONDON, E.C.

WEBB, 60 Bartholomew's Lane, London, E.C.2.  
QUOTATIONS ON APPLICATION.

**MUSTARD.****FINCH, RICKMAN & CO.'S**  
**Genuine Qualities**

Are made from the finest mustard seeds only. Their compounds, as manufactured for upwards of a century, are guaranteed free from all ingredients imparting spurious heat, and are therefore equally suitable for both table and medical purposes.

**6 BROKEN WHARF, UPPER THAMES STREET,  
LONDON.**

**HENRY WIGAN & CO.'S**

**ISINGLASS.**

IMPORTERS AND MANUFACTURERS OF  
**Brewers' and Druggists'**

**ISINGLASS.**

**HENRY WIGAN & CO.,**  
SWAN LANE, UPPER THAMES ST., LONDON.

**GROUND SUGAR.****FINEST ICING.**

|                           |                           |
|---------------------------|---------------------------|
| 1. Fine Icing             | 5. For Confectioners' use |
| 2. Kali Sugar             | 6 " " "                   |
| 3. For Confectioners' use | 7. Coffee Sugar           |
| 4. " " "                  | 8. Castor Sugar           |

SAMPLES ON APPLICATION TO

**W. HOSKIN,**  
Sugar Mills,

NEW ST., HUDDERSFIELD.

**PURE SOLUBLE COCOA.****VAN HOUTEN'S COCOA**

Is the only guaranteed Pure Soluble Cocoa, better and cheaper than any other Cocoa, Cocoa Extract, or any Chocolate.

The *British Medical Journal*, March 27, 1869, says:—"Van Houten's Cocoa is admirable. In flavour it is perfect, and it is so pure, well prepared, and rich in alkaloid," &c., &c. See also the *Lancet*, &c.

Sold (full weight) in 1-lb.,  $\frac{1}{2}$ -lb., and  $\frac{1}{4}$ -lb. Tins, at 4s., 2s. 1d., and 1s. 1d. Sample Tins, sufficient for a family, free of charge, through your Grocer or Chemist.

Sole Consignee—H. ESCHWEGE, 6 & 7 Coleman Street, London, E.C.

SEVEN PRIZE MEDALS AWARDED.

**GOODALL'S  
HOUSEHOLD SPECIALITIES.****YORKSHIRE RELISH.**

THE MOST DELICIOUS SAUCE IN THE WORLD.

This cheap and excellent sauce makes the plainest viands palatable, and the daintiest dishes more delicious. To Chops and Steaks, Fish, &c., it is incomparable. Sold by Grocers, Oilmen, Chemists, &c., in Bottles, 6d., 1s., and 2s. each.

CAUTION—On each *Yorkshire Relish* Label is a Willow Pattern Plate and name, GOODALL, BACKHOUSE & CO. No other is genuine.

**Goodall's  
Baking Powder**

THE BEST IN THE WORLD.

Makes delicious Puddings without Eggs, Pastry without Butter, and beautiful light Bread without Yeast. In 1d. Packets; 6d., 1s., 2s., and 5s. Tins.

**Goodall's  
Quinine Wine**

The best, cheapest, and most agreeable tonic yet introduced. The best remedy known for Indigestion, Loss of Appetite, General Debility, &c. Restores delicate individuals to health and vigour. In Bottles, 1s. 1d., and 2s. 3d. each.

**Goodall's  
Custard Powder**

For making delicious Custards without Eggs, in less time and at half the price. Unquailed for the purposes intended; will give the utmost satisfaction if the instructions given are implicitly followed. Sold in Boxes, 6d. and 1s. each.

**Goodall's  
Ginger Beer Powder**

Makes Three Gallons of the Best Ginger Beer in the World for 3d. It is a delicious and invigorating beverage, possessing valuable medicinal properties. It is cooling in its nature, and a most wholesome beverage for both winter and summer. Sold in Packets, 3d. and 6d. each.

**Goodall's  
Blanc Mange Powder**

Is acknowledged by all to be the most convenient and economical preparation ever introduced, as, by its use, a most Rich and Delicious Blanc manger may be produced in a few minutes at a trifling cost, and may be had of various flavours, i.e., Raspberry, Strawberry, Lemon, Almond, and Vanilla. Sold in Packets, 6d. and 1s. each.

**Goodall's  
Egg Powder**

Acknowledged to be the only real substitute for eggs yet discovered. Its action on Cakes, Puddings, &c., &c., resembles that of the egg in every particular, enriching them in colour and flavour, rendering them more wholesome and nutritious. One penny packet will go as far as four eggs; and one sixpenny tin as far as twenty-eight. In 1d. Packets; 6d. and 1s. Tins.

SOLE MANUFACTURERS—

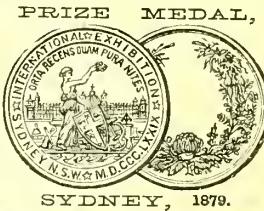
**GOODALL, BACKHOUSE & CO., White Horse Street, Leeds.**

*A Monthly Price List of Druggists' Sundries, Patent Medicines, &c., can be had post free on application.*



TRADE MARK.

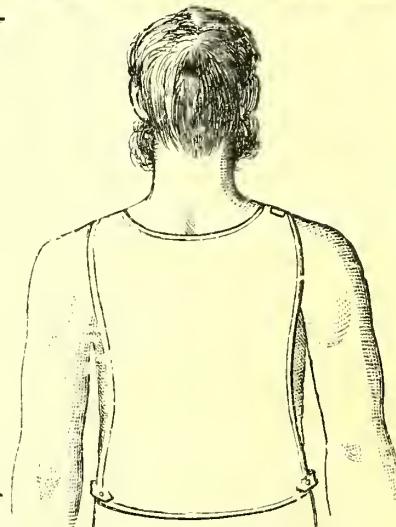
# CHEST PROTECTORS.



SYDNEY, 1879.



LYNCH'S  
"CUIRASS."  
REGISTERED.



Subjoined we have pleasure to hand Prices for approaching season,  
soliciting early orders.

#### DOUBLE.

#### CUIRASS, Scarlet or White Felt—

No. 1, 24/-; No. 2, 30/-; No. 3, 36/-; No. 4, 43/-; No. 5, 54/- per dozen.

#### DREADNOUGHT, Scarlet or White Felt—

No. 1, 15/3; No. 2, 20/-; No. 3, 25/-; No. 4, 31/6; No. 5, 40/- per dozen.

#### SINGLE.

#### GENTLEMEN'S, Scarlet or White Felt—

No. 1, 9/6; No. 2, 11/3; No. 3, 13/-; No. 4, 15/6; No. 5, 20/6 per dozen.

#### LADIES', Scarlet or White Felt—

No. 1, 6/9; No. 2, 8/6; No. 3, 10/3; No. 4, 12/6; No. 5, 18/- per dozen.

*Discount: 10 per cent. Monthly, 5 per cent. Half-yearly account.*

**SPECIAL QUOTATION FOR SIX DOZEN AND UPWARDS.**

**LYNCH & CO.,**

ALDERSGATE STREET, LONDON, E.C.

# SODA WATER MACHINERY

AND ALL ACCESSORIES FOR THE TRADE, BY

## BRATBY & HINCHLIFFE.

SOLE AGENTS FOR JAMES GALLIVAN, BOURTON.

All communications, for prompt and careful attention, to the address of the Agents will be forwarded in confidence. Amongst the more recent Trade Boxes of Soda Water Machinery is the well-known

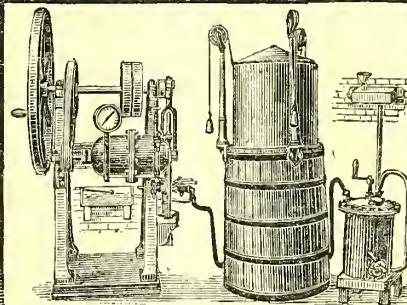
### LILLIPUTIAN SODA WATER PLANT.

As shown below, which is specially designed for the Committee and the Trade. It is the smallest and most portable and convenient Soda Water Machine ever offered to the Trade, and will be of great service in small districts. It only requires 100 ft. of water, and we send a man to fit the machine to work.

#### No 1 PLANT.

MAKES 400 DOZ PER DAY AND IS FITTED  
WITH 1½ PUMP AND 2 CAL CYLINDER  
PRICE INCLUDING CASOMETER AND  
GENERATOR AND ALL FITTINGS AS SHOWN

NO - £52 10s - EXTRAS.

Any portion of this plant is sold separately  
if required.

#### No 2 PLANT.

MAKES 600 DOZ PER DAY AND IS FITTED  
WITH 2½ PUMP AND 4 CAL. CYLINDER  
PRICE INCLUDING CASOMETER AND  
GENERATOR AND ALL FITTINGS AS SHOWN

NO - £63 - EXTRAS.

Full Descriptive Circulars forwarded  
on application.We are still the Sole Agents for the  
WILKINSON

### RAPID PARAGON TURNOVER FILLING MACHINE.

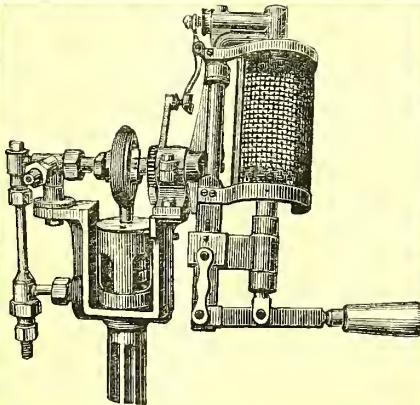
Over 500 of these simple and durable machines are now in use, having been sold in 20 months.

THEY SAVE 20 PER CENT  
IN CAS ALONE AND DO NOT WASTE THE  
SYRUP, HAVING NO TUBE. THE SYRUP  
PUMP CAN BE REGULATED TO THE  
GREATEST NICETY AND DOES NOT  
WORK WHEN BOTTLING SODA WATER ALONE.

The simplest, quickest, cheapest  
and best durable, labour-  
saving. Price, complete with  
Glass Barrel, Syrup Pump  
and all latest improvements.

£10 10s.

Before purchasing any other  
machine, please send for the  
latest Descriptive Circular  
and catalogues of every  
kind of Soda Water and Syrup  
Machinery.



THEY FILL AND SYRUP  
ALL KINDS OF INTERNAL PATENT  
STOPPED BOTTLES WITH ONE  
MOTION AT THE RATE OF 60 DOZ  
LARGE AND 20 DOZ SPLITS  
PER HOUR

SPECIAL NOTICE  
Every Soda Water Maker  
should obtain our "MONTHLY  
LIST" which contains particulars  
of the largest Stock of new  
and second-hand Soda  
Water Machinery and Appliances  
in the Kingdom and Catalogues  
of every kind of  
Machinery & Appliances  
used by the Trade.

#### GENERATORS.

DOUBLE ACTION PUMPS,  
SINGLE ACTION PUMPS,  
PATENT FILLING MACHINES.

WE KEEP IN STOCK ALL KINDS OF  
COPPER & BRONZE STIRRERS, STEAM ENGINES AND BOILERS,COMBINED OR SEPARATE GAS AND WATER ENGINES,  
SHAFTEING, PUMPS, BELTING, PACKING CASES.

#### CASOMETERS.

BOTTLE WASHING MACHINES,  
PATENT & ORDINARY BOTTLES,  
DRUGS, CORKS, TIN FOIL, &c.

### MANUFACTURERS OF DERESINIZED SOLUBLE ESSENCES.

Importers of Essential Oils, Fruit Essences, and other Chemicals and Ingredients for manufacturing pure  
Herated Waters.

#### SOLUBLE ESSENCES.

|                 | Per lb. | Per lb.                       | Per lb.                 |
|-----------------|---------|-------------------------------|-------------------------|
| LEMON           | 5/0     | HOREHOUND                     | 5/0                     |
| GINGER ALE      | 5/0     | PEAR JARGONELLE               | 3/0 & 5/0               |
| ORANGE (SWEET)  | 5/0     | PINE APPLE                    | 3/0 & 5/0               |
| ORANGE (BITTER) | 5/0     | RASPBERRY                     | 5/0                     |
| GINGER          | 5/0     | PHOSPHOR & IRON               | 5/0                     |
| CAPSICUM        | 5/0     | (For Medicinal Family Drunks) | 5/0                     |
|                 |         |                               | VANILLA                 |
|                 |         |                               | ANISEED                 |
|                 |         |                               | CHAMPAGNE CIDER         |
|                 |         |                               | HOPS                    |
|                 |         |                               | "HOT TOM"               |
|                 |         |                               | ORANGE BITTERS          |
|                 |         |                               | TONIC (For Tonic Water) |
|                 |         |                               | ORIS                    |
|                 |         |                               | ROSE                    |
|                 |         |                               | SPICED ALE              |
|                 |         |                               | CINNAMEN                |
|                 |         |                               | CLOVES                  |
|                 |         |                               | LIMES                   |
|                 |         |                               | TONIC                   |
|                 |         |                               | 7/6                     |
|                 |         |                               | 5/0 & 7/6               |
|                 |         |                               | 5/0 & 8/0               |
|                 |         |                               | 6/6                     |
|                 |         |                               | 6/6                     |
|                 |         |                               | 7/6                     |

All the above Essences are manufactured by an entirely new process, and for purity and general excellence of flavour  
they cannot be equalled, while they mix perfectly bright with Water or Syrups. These Essences impart rich body, and  
around the flavours to the drinks, and a trial will at once convince the trade of their superiority over others in the  
market (essential oils) which do not mix, but float on the top of the Syrup, causing great waste.

**BRATBY & HINCHLIFFE,**

13 POT ST AND SANDFORD ST, ANCOATS, MANCHESTER.

# HAYWARD TYLER & CO.

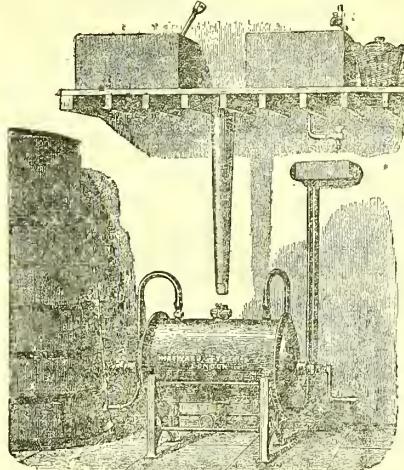
HAYWARD TYLER &amp; CO.

71

56

HAYWARD TYLER &amp; CO.

## GAS GENERATING MACHINERY



## PRICES OF GAS GENERATORS

|  |         |
|--|---------|
| No. 1, with fast and loose pulleys for steam power | £14 5 0 |
| for hand power                                     | 12 15 0 |
| No. 1A, with pulleys for steam power               | 21 10 0 |
| for hand power                                     | 20 0 0  |
| No. 1B, with pulleys for steam power               | 24 9 0  |
| for hand power                                     | 22 10 0 |

All the above prices include acid box and pipe as shown.

A small tank containing a carboy of acid or more may be placed on a shelf or on brackets above the acid box, and an "Adamas" tap connected with it, by means of which the supply of acid can be regulated as required.

Price of STRONG WOODEN TANK lined with lead, fitted with patent "Adamas" tap, and cover.

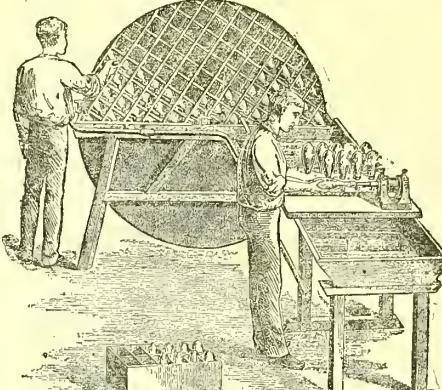
|                            |        |
|----------------------------|--------|
| To hold one carboy of acid | £2 0 0 |
| To hold two carboys        | 3 0 0  |
| To hold three carboys      | 5 0 0  |

PATENT ADAMAS TAP, with lead pipe.

Large Patent Adamas Tap for emptying carboys.

The "patent Adamas" is a very hard material of the nature of carbone, specially manufactured to be impervious to strong acids.

84 & 85 UPPER WHITECROSS STREET, LONDON.

BOTTLE WASHING MACHINERY  
WILSONS PATENT PARTITIONED WHEEL FOR SOAKING BOTTLES

After careful investigation and observation of the various systems of bottle washing in use, we have decided to manufacture the wheel as shown, the wheel being by far the most efficient and the most economical. It is now being used in several of the largest and most aristocratic water factories in London. It consists of a large wooden rack in the form of a wheel, suspended in centre, in a trough of water like a grindstone. The dirty bottles are placed in the trough on the left, and after passing through the water are taken out on the other side to be rinsed. The water is then turned on to the bottles that are put in, carrying them down into the water as the others are removed. On the wheel is kept revolving slowly without any exertion in working a lever to, and the water is thrown over the bottles, thus obviating the risk of the bottles being taken place from soaking a number in a trough together. One man will be sufficient to supply empties to the wheel, can, soak, brush, rinse, and take off 30 dozen in one hour easily. The wheel can be arranged in various ways as shown in next page, viz.—

## Right hand wheel, Fig. A

Ash wheel copper fastened, galvanized iron tank, galvanized iron tray, frame and legs for tank, complete with brushing head and rinsers. Price £10 10 0 extra.

## Left hand wheel, Fig. B (above). Price £10 10 0 extra.

The above with treadle brushing head ... £10 10 0 extra.

## Double wheel, Fig. C

Either arranged as shown, or with wheels set back so as to feed from back of tray.

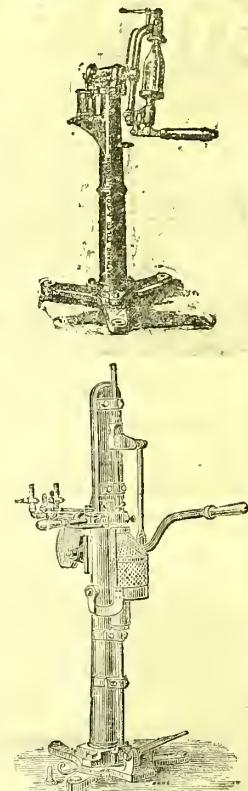
With 2 brushing heads and 2 rinsers and stop valves. Price £10 10 0 extra.

## Double wheel, Fig. D

With double brushing head, 2 rinsers, tank in line, one double-headed tray.

Extra large wheel to hold 2 gross. Price £12 10 0 extra.

With double brushing head and double set of rinsers. Price £12 10 0 extra.



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[2]

# SODA WATER MACHINERY

## BY BARNETT & FOSTER,

### 23<sup>rd</sup> FORSTON STREET, SHEPHERDESS WALK, LONDON, N.

Prize Medals—London, 1862, 1873, 1874; Paris, 1867, 1878; Vienna, Philadelphia, Cape, &c. Highest Award, Sydney, 1879-80.

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All our Machines have a Gasometer, and it forms a most important necessity where purity of product is required, as in this the gas is expanded and purified; it also removes the possibility of explosion, and avoids the necessity of complication—these we consider of greater importance than the saving of a few inches of floor space.

Our valuable Book of Recipes and Instructions accompanies every Machine, and the most unskilled can at once produce Waters of the highest class.

Sole Agents for Codd's Patent Bottle, Fig. 1. Sole Manufacturer of the "London-made" Syphon, Fig. 2.

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With this Machine Soda Water of the highest quality is produced with a pressure of from 65 to 80 lbs. in the cylinder, instead of 120 to 200 lbs. as hitherto, and all other Aërated Waters and Beverages at a proportionate reduction of pressure. Skilled labour is dispensed with and great saving effected.

**The Price of the Machine is £35.**

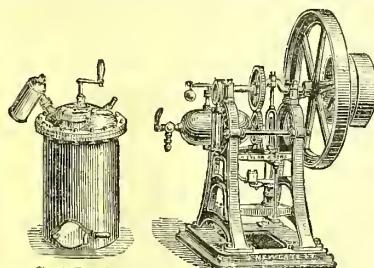
*It may be seen at Messrs. HAYWARD TYLER & CO.'S, Upper Whitecross Street, E.C., or in operation at the Patentees' premises, Esher Street, Page Street, Westminster, S.W.*

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MANUFACTURERS OF

**SODA WATER  
MACHINERY,**

To produce from 50 to 2,000  
dozen per day.

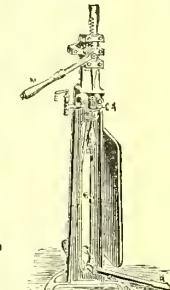
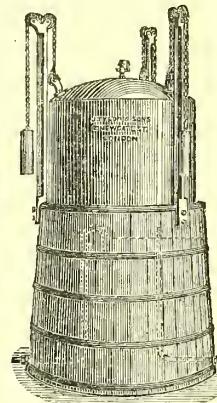


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without Syrup  
Pump, for Cork  
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Bottles.



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Are now used by upwards of 900 Soda Water Manufacturers  
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PRICES (Per Gross).—Patent Stopper, as per Fig. 1, 4/6; ditto, as per Fig. 3, 4/6; ditto, as per Fig. 4, 4/6; Patent Stoppered Bottles, ready for use; ditto Half Bottles, ditto; Patent Unstoppered Bottles; ditto Half Bottles; Fig. 9. Boxwood Bottle Openers, polished, 8/6; ditto, fitted with rubbers, 10/6; Common Wood Bottle Openers, 5/6; ditto, fitted with rubbers, 7/6; Fig. 10, New Bottle Opener, 6/-.

**ROYALTY FREE.**

Fig. 1.

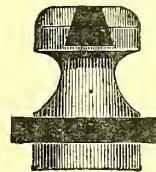


Fig. 3.



Fig. 1. Stoppers, when invected separately, are ready fitted with the rubber washer on, and are easily inserted into the Bottle by the simple pressure of the thumb, the washer at the same time folding in the hollow part of the stem when passing into the Bottle. It is the only Stopper which requires no tool to fit the Bottle with; and when a Bottle breaks, which seldom occurs, the Stopper is always fitted with this washer, ready to be inserted in a new Bottle. Therefore it is the most durable and inexpensive Stopper in the trade.

ADVANTAGES.—These Stoppers cannot break the Bottles. The smallest surface of indiarubber ever exposed to the liquid of any Stopper out. The Stoppers are inserted without trouble. No extra cost for Bottles. The Stoppers are cheap, very durable, and particularly clean. The Filling Machine is not expensive, and quick in action. Any Filling Machine, however, will do. The Patentee guarantees the Stoppers perfect gasholders, therefore no leakage is possible. That Bottles may be opened, with or without an opener, by the pressure of the finger.

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It having come to my knowledge that certain parties conversant with the great and acknowledged superiority of my Patent Stopper, have so re-modelled theirs so as to constitute a clear case of infringement upon my rights, I wish it to be known that I intend to take such steps against the said parties as may seem desirable, should this notice not be effectual.

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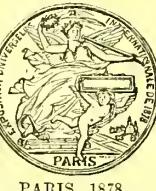


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MONDOLLOT'S PATENT.

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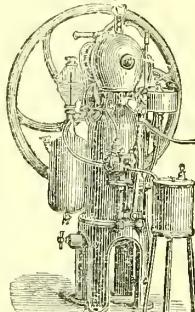
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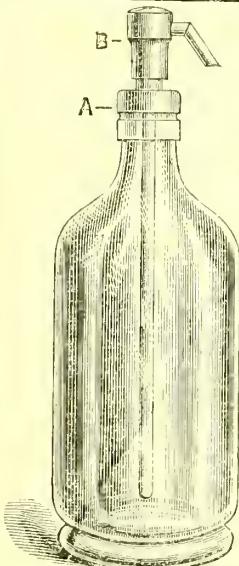
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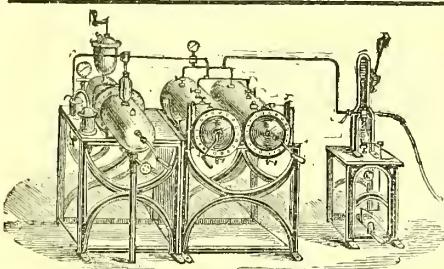
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ON THE  
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The consumption of Aërated Waters is vastly on the increase, and Chemists and Druggists can, if they will, retain the business in their own hands.

I ask any Chemist and Druggist who is willing thus to increase his income to communicate with me. I shall be happy

to advise with him respecting the erection of a plant, large or small, and will give him all necessary information to

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I can also satisfy him, by the testimony of hundreds in the trade, that in dealing with me he will obtain just and honest treatment, and that the machinery I supply is of the soundest materials, constructed with the highest skill, and sold at the lowest possible rates of profit.

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MINERAL WATER MANUFACTURER,  
BRIDGE STREET, NEWARK.

To Mr. N. G. WILCOCKS,  
BATH

Sir,—Unsolicited I must express my entire satisfaction with the Machinery you have lately supplied me with, viz.: the "Favourite," "Eclipse," Filling Rack, Syphon ditto. I think the "Eclipse" a splendid invention, and the waters are well charged. As a whole it is everything that can be desired, and I can recommend this size plant to any Chemist or Publican who consumes a reasonable quantity of waters, as the knowledge requisite to work it is so small. I have had nine years' experience in the trade, so feel confident to form an opinion. If this information is of any service to you, you may make use of it.

*Yours respectfully,* *W. C. HALLS.*

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**HONOURABLE MENTION,**  
International Food Exhibition, Agricultural Hall, London, October, 1880.

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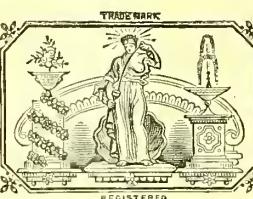
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This Essence, which is an addition of VANILLA, LEMON, and OTHER FLAVOURS to the above, is strongly recommended for the manufacture of Ginger Beer, Wines, &c., to which it imparts with the Ginger a Peculiarly Fine Fruity Flavour and Aroma.

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This Essence is strongly recommended for the manufacture of the finest Ginger Ale and Ginger Beer. It imparts, with the exquisite Ginger Aroma of the first-mentioned Essence, a peculiarly fine fruity flavour combined with the fullest amount of fragrance and pungency.

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*This Essence is a complete Bouquet of the finest Ginger, Lemon, and other flavours, in a highly concentrated state.*

Ginger Beer and Ginger Ale made with this Essence will possess an amount of Aroma, Flavour, and Quality that have hitherto been without precedent, and that will be sure to command a large sale.

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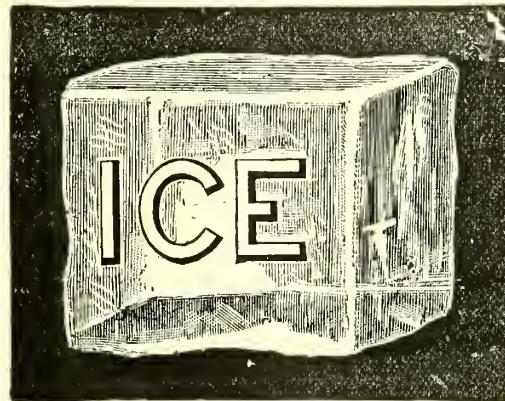
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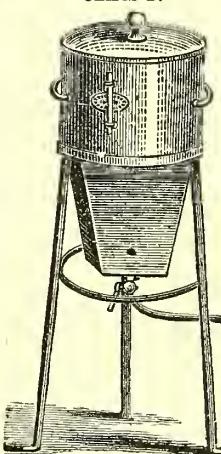
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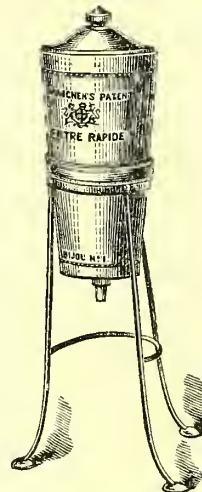
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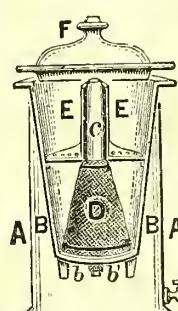
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These Filters do well and quickly what jelly bags and  
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"The Chemist will not be mortified by his neighbour the Grocer offering the **SHELFANGER** at a lower price than himself, as no Agents are employed by the Proprietor."—Editor of THE CHEMIST AND DRUGGIST.

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"The Shelfanger Constitutional Water, or Natural Mineral Water of Shelfanger" (Entered at Stationers' Hall), is no ordinary Foreign Table Water, but a Constitutional Table Water, of genuine English Origin, and one which, from its "special interest and peculiarity of composition," according to Professor TICHBORNE, Analyst, of Ire'and, and its "value as an Antacid and Chalybeate," according to Professor ATTFIELD, Analyst, of England, justifies its position as THE CONSTITUTIONAL TABLE WATER.

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**HAVE IT IN YOUR HOUSES AND TRAVELS, USING NO OTHER SALINE;**  
it gives instant relief in Headaches, Sore or Bilious Sickness, and quickly cures the worst form of Eruptive or Skin Complaints. The various diseases arising from Constipation, the Liver, or Blood Impurities, Inoculation, the results of breathing air infected with Fevers, Measles, or Smallpox, are frequently prevented and certainly cured by its use.

The sale of these Saline Salts having greatly increased during the past few years, I beg most cordially to thank those who sell and recommend the same, and also to inform intending dealers that they will find Messrs. BARCLAY, EDWARDS, MAW, NEWBERRY, SANGER, SUTTON, and the Wholesale Houses generally, ready to supply their wants. This Advertisement is found needful in consequence of the trouble, cost, and inconvenience in the keeping and collection of numerous small accounts. *Note.*—The Name, Trade Mark, Labels, Wrappers, &c., are all Registered and Entered at Stationers' Hall. 113 HOLBORN HILL, LONDON, E.C.

**SPECIAL NOTICE.**—Medical Gentlemen having fever cases, and desirous of trying the Saline, can have a single bottle at wholesale prices by sending their cards.



### "ABSOLUTELY PURE."

SEE ANALYSIS. Sent post free on application.

### ELLIS'S



### RUTHIN

Soda, Potass, Seltzer, Lemonade, also Water without Alkali. For GOUT, Lithia Water, & Lithia & Potass Water.

### WATERS.

CORKS BRANDED "R. ELLIS & SON, RUTHIN," and every label bears their Trade Mark. Sold everywhere, and wholesale of

R. ELLIS & SON, RUTHIN, NORTH WALES.

London Agents: W. BEST & SONS, Henrietta St., Cavendish Square.

### T. & F. J. TAYLOR'S



### AÉRATED WATERS,

Newport Pagnel.

ESTABLISHED 1835.

SODA, POTASH, SELTZER, AÉRATED (without Alkali), and LITHIA WATERS, LEMONADE AND GINGER ALE.

Each Bottle is protected by a Label bearing the Signature of the Firm.

Purity and Excellence of the Water certified by Analysis by Professor ATTFIELD, Ph.D., F.C.S.

### LA BOURBOULE,

AN EMINENTLY RESTORATIVE MINERAL WATER.  
Contains Chloride of Soda, Bicarbonates, Arsenics (28 millig. of arsenic of soda per litre).

Dose: Half a glass to three glasses per day before or during meals.

A Regenerator for Weakly Children, and for Debility in Adults: also in Anemia, Puffy Degeneration, Affections of the Skin and Respiratory Organs, and Intermittent Fevers. Employed as a drink and in gargles for Bronchitis and Sore Throat, and as a drink and lotion in Ringworm, Chaps, and Redness of the Skin. Anglican Divine service on Sundays.

London: GALLAIS & CO., 27 Margaret Street, W. INGRAM & ROYLE, 119 Queen Victoria Street, E.C. WILLIAM BETTS & SONS, 22 Henrietta Street, Cavendish Square. Liverpool: EVANS, SONS & CO.

## BOURNE WATER.

THE PUREST IN ENGLAND.

### R. M. MILLS & CO., BOURNE, LINCOLNSHIRE,

Manufacture all kinds of Aerated Waters from this celebrated Artesian Spring.

Dr. ANDERSON'S Tissue Phosphate Tonic Water, an Aerated Tonic Beverage containing all the Mineral Ali-ments of Nutrition (no Iron), and assisting Digestion in a most marvellous degree.

SOLD BY THEIR AGENTS THROUGHOUT ENGLAND, PRICE, WITH DESCRIPTIVE PAMPHLETS, UPON APPLICATION.

SPECIAL AGENTS IN LONDON—

Messrs. INGRAM & ROYLE, Victoria Street, and

Messrs. HARDY & Co., 42 Fenchurch Street,

# JEWSBURY & BROWN'S MANCHESTER MINERAL WATERS,

PURE SODA, SELTZER, POTASH, LITHIA, &c.,  
LEMONADE,

GINGER ALE, AND QUININE TONIC.

*Prepared and Bottled specially for Export, and warranted to keep well.*

Manufactured with the utmost care and by improved machinery, these productions are recommended for purity and excellence of quality by many leading members of the Medical Profession, and have for many years had a preference by the public; the flavour of the Lemonade and Ginger Ale being procured from the fresh Fruit and Finest Jamaica Ginger, they may be relied upon as furnishing delicious and satisfactory beverages, either for general use or specially for invalids.

The Soda Water is absolutely free from any metallic impregnation, and being by improved machinery highly charged with Carbonic Acid Gas, and each bottle containing a definite and unvarying proportion of Pure Carbonate of Soda, J. & B. have every confidence in inviting a trial from those who have not already patronised them.

The Seltzer, Potash, and Lithia Waters are prepared with the utmost exactitude and the purest ingredients.

The New Quinine Tonic furnishes a pleasant form for the administration of a most valuable restorative, and is refreshing and agreeable.

Ginger Ale (Aromatic) of superior quality, and strongly recommended as a Non-Alcoholic and warm stimulant beverage.

*N.B.—Every Bottle is protected by a distinctive Label, with Name and Trade Mark, and each Cork is branded.*

Counter Bills and Analytical Reports, with Agents' Names and Addresses, supplied when requested.

A CERTIFICATE OF MERIT, for superiority of quality, was awarded to Jewsbury & Brown at the Exhibition of Sanitary Appliances, at Owens College, Manchester, on the occasion of the Meeting of the British Medical Association, August, 1877.

A CERTIFICATE OF MERIT awarded by the British Sanitary Institute of Great Britain, after a deferred PRACTICAL TRIAL AND EXAMINATION, July 4th, 1879.

JEWSBURY & BROWN, 44 Downing Street, 3 Grosvenor Street, and 113 Market Street, MANCHESTER.

# HAY'S GINGER CHAMPAGNE

CAN BE OBTAINED FROM THE SOLE AGENTS,

INGRAM & ROYLE, 119 Queen Victoria Street, LONDON, E.C.,  
AND BATH BRIDGE, BRISTOL.

Retail Price, in Half Champagne Bottles, 5s. 6d. per dozen.

This SPARKLING, EXHILARATING, and REFRESHING DRINK, while being far more agreeable in bouquet and flavour than the FINEST CHAMPAGNE WINE, is, at the same time, unlike it, FREE from ALCOHOL.

Samaritan Free Hospital, Lower Seymour Street,  
Portman Square, London, W.

Dear Sir.—I have tried your Ginger Champagne, which I find to be excellent, and I look upon it as a step in the right direction towards meeting a long-felt want. Our Senior Physician, Dr. Henry Savage, has also tried it, and is much pleased with it. We ought long ago to have had such a beverage, and I believe that a great deal of drinking would thus have been prevented. I wish your effort much success.

I am, dear Sir, yours faithfully,  
GEORGE SCUDAMORE, Secretary.  
52 Montague Square, London, W.

Sir.—I am able to state that your Ginger Champagne is excellent and most refreshing. It will, I trust, supersede those cheap alcoholic drinks that meet us at many inns and railway stations, and which are often the only drinks to be had. In providing this beverage you have greatly assisted the cause of temperance, and I shall recommend it largely.

It is strongly recommended both for Juveniles and Adults, &c., as the most Wholesome Stimulating Beverage that has hitherto been introduced, and should be in every household during all seasons of the year.



19 Oxford Terrace, Hyde Park, London, W.  
I have tried Hay's Ginger Champagne and like it extremely. I consider it is infinitely superior to the numerous non-alcoholic beverages now so largely advertised. It is an invigorating and refreshing tonic beverage, and, as such, I can confidently recommend it.

W. DOMETT STONE, M.D., Phys. Finsbury Dispensary.

An excellent and most agreeable beverage.—*The Lancet*.  
Made by Mr. Hay, of Hull, with his well-known ESSENCE OF JAMAICA GINGER, takes rank as a PURE, WHOLESOME, STIMULATING, and NON-ALCOHOLIC beverage.—*British Medical Journal*.

One of the most delicate and wholesome drinks in the market.—*Medical Press*.

This is a beverage which the practitioner can safely recommend.—*Medical Times and Gazette*.

Mr. Hay, of Hull, deserves abundant success w<sup>t</sup> his Ginger Champagne. It is an exhilarating, wholesome, and very agreeable beverage.—*The Chemist and Druggist*.

Sole Manufacturer, W. HAY, Chemist, &c., 4 Regent's Terrace, HULL.

# W. J. BUSH & CO.,

Distillers and Importers of  
**ESSENTIAL OILS AND FRUIT ESSENCES,**

*SOLUBLE ESSENCES FOR AERATED WATER,  
 AND CORDIAL MANUFACTURERS,*

Extra Super Lemon, which is double the strength of ordinary commercial qualities.

W. J. B. & CO. CAUTION the Trade against the so-called soluble Essences now so frequently offered for sale, which are nothing more than mere tinctures, and, although offered at lower prices, cost five or six times as much in use, whilst imparting a strong medicated flavour.

**NONE OTHERS ARE GENUINE.**

## FRENCH CREAM GUM EXTRACT.

PROTECTED BY ROYAL LETTERS PATENT.

*For producing a head of Creamy Richness upon all kinds of Syrups, Aerated Waters, Beers, Ales, Cider, Champagne, &c., 2s. 6d. per pound.*

W. J. BUSH & CO. regret having to CAUTION the Trade against spurious imitations of this article, most of which being mere rubbish.

**W. J. BUSH & CO.,**  
 20 to 23 Artillery Lane, London. Works—Ash Grove, Hackney.

## FRUIT COMPOUNDS,

*Lemon, Orange, Raspberry, Strawberry,*

*Pear, Pine Apple, and Ginger,*

FOR THE MANUFACTURE OF

## FRUIT CHAMPAGNES,

PATENTED BY

Messrs. BARNETT & FOSTER,  
 FORSTON STREET, HOXTON, LONDON,

*And Manufactured solely for the Patentees by*

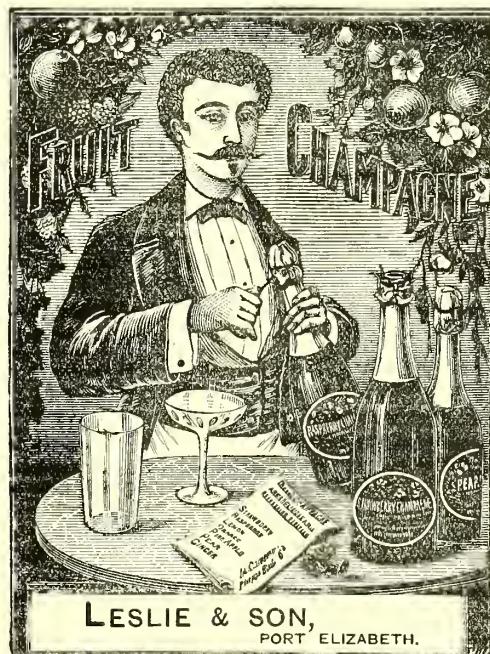
**W. J. BUSH & CO.,**  
 20 to 23 ARTILLERY LANE, BISHOPSGATE, LONDON.

**Packed in 1, 2, and 5 lb. bottles.**

Price, 4s. 6d. per lb. net, including bottle.

Full particulars as regards cost of licence, machinery, &c., for the manufacture of above, may be had on application to Messrs. Barnett & Foster, or

W. J. BUSH & CO., 20-23 Artillery Lane, Bishopsgate, London, E.



LESLIE & SON,  
 PORT ELIZABETH.

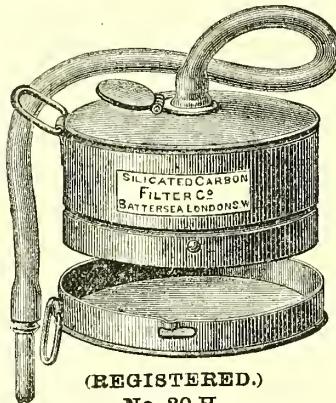
# NOVELTY. SILICATED CARBON POCKET FILTER,

IN GERMAN SILVER, NICKEL-PLATED.

Retailed at **FIVE SHILLINGS** each.

Designed by  
MAJOR FRASER,  
of the  
ROYAL ENGINEERS,  
especially  
for Officers' Kits.

Weighs only 8 ounces.



(REGISTERED.)

No. 20 H.

Sample sent free by Post on receipt of **FOUR SHILLINGS**.

## DOMESTIC

Made in cream-coloured Stoneware, fitted with the Silicated Carbon Media, complete with Cover and Silver-plated Tap.

All sizes of this pattern can now be had with Ice Compartment, which renders this Filter the most perfect of Refrigerators.

It has been approved  
by the  
Authorities at the  
Horse Guards, and has  
been largely used  
in the Afghan, Zulu, and  
Egyptian Expeditions.

## FILTER, NO. 27.

### PRICES.

With Ice  
Compartment.

|                                      |          |              |
|--------------------------------------|----------|--------------|
| No. O, capacity $\frac{1}{2}$ gallon | 10s. 6d. |              |
| No. A, "                             | 14s. 6d. | ... 17s. 6d. |
| No. B, "                             | 21s. 0d. | ... 25s. 0d. |
| No. C, "                             | 32s. 0d. | ... 36s. 0d. |
| No. D, "                             | 42s. 0d. | ... 48s. 0d. |
| No. E, "                             | 52s. 0d. | ... 60s. 0d. |
| No. F, "                             | 70s. 0d. | ... 80s. 0d. |

## MAIN SUPPLY FILTER, NO. 40.

SPECIALLY ADAPTED FOR  
Inns, Schools, Hospitals, Public  
Institutions, Breweries, Distilleries,  
Soda Water Manufactories,  
Dye Works,  
and all other Establishments where large quantities of

### PURE WATER

Are required.

The ordinary Sizes kept in Stock are as follows:—

|  |          |
|--|----------|
| A, $\frac{1}{2}$ -inch or $\frac{3}{4}$ -inch pipe .. .. | £6 6s.   |
| B 1-inch pipe .. .. ..                                   | £9 9s.   |
| C, $\frac{1}{2}$ -inch, $\frac{3}{4}$ -inch pipe .. ..   | £15 16s. |
| D, 2-inch pipe .. .. ..                                  | £213 5s. |



INLET.

SILICATED CARBON FILTER CO.  
BATTERSEA

EXTERIOR VIEW

CLEANING TAP

OUTLET

This Filter is extremely simple in construction, and can be either connected with a Cistern or attached to the Main Service Pipe. It requires no attention beyond an occasional opening of the Cleansing Tap, and will deliver a supply of purified water at a rate of 50 to 1,000 gallons per hour, according to size.

Special Contracts entered into  
for Large Works, Institutions,  
&c., &c.,

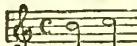
FOR PURIFYING THE WHOLE OF THE WATER SUPPLY OF A BUILDING BEFORE USE.  
Ensuring Rapid and Perfect Filtration at either High or Low Pressure.

SILICATED CARBON FILTER CO., CHURCH ROAD, BATTERSEA, LONDON.



HOW TO SING AND SPEAK WITH PERFECT EASE.

## VOCALINE.

TRADE REGISTERED.  MARK. REGISTERED.

For Hoarseness, Voice, Throat, and Chest Affections, Coughs, Colds, Asthma, &amp;c. In Bottles at 1s. 1½d. and 2s. 9d.

## TONIC DROPS,

For Indigestion, Headache, Heartburn, Sickness, and all Diseases arising from the Stomach and Liver.

In Bottles at 1s. 1½d. and 2s. 9d.

Manufactured only by R. BUXTON, Consulting Chemist, Cavendish St., BARROW-IN-FURNESS.

CHARRAS & CO.,  
NYONS (DROME), FRANCE.

SPECIAL DISTILLATION OF

## ESSENTIAL OILS,

LAVENDER, ROSEMARY, FENNEL, ORIGANUM, SPIKE, RED AND WHITE THYME.

SAMPLES SENT ON APPLICATION.



A willing mind makes light employment.

BOWLING & GOVIER  
(Late Partners with FILMER KIDSTON),  
MEDICAL SHOP FITTERS & CASE MAKERS.Our friends are kindly requested to notice our  
REMOVAL TO NEW WORKSHOPS, where alone our Special Class  
Manufacture can now be obtained.THE ART JOINERY WORKS 22 GUN ST., BRUSHFIELD ST.,  
BISHOPSGATE, LONDON.

Send for Estimates, also for List of the Shops Fitted in our Modern Style.



Labour well planned is half done.

LLOYD RAYNER'S  
£75 CHEMIST'S SHOPFITTED COMPLETE WITH ALL NEW GOODS,  
INCLUDING

## GLASS SHOW CASES, SHOP BOTTLES, JARS, &amp;c.

If for Export, suitable for any climate, including  
Packing Cases, and delivered to any of the  
London Docks, free, £85.The above Fittings are suitable for a Shop  
14 feet long by 12 feet wide.WHOLESALE AND RETAIL DRUGGIST'S, SURGEON'S.  
AND DENTIST'S VALUER.An Extensive Stock of Chemist's, Surgeon's, Dentist's, Grocer's  
and other Trade Fixtures, Office Fittings, Utensils, &c.

ALL KINDS OF FIXTURES BOUGHT OR TAKEN IN EXCHANGE.

SHOW ROOMS AND OFFICES—

## 333 KINGSLAND ROAD.

FACTORIES—

2 DOWNHAM ROAD, KINGSLAND;

AND

WHITMORE ROAD, HOXTON, LONDON, N.

SHOP BOTTLES AND JARS  
WITH BURNT-IN LABELS(Black letters on a ground of pink or white enamel).  
Narrow-mouthed and Wide-mouthed Bottles, well  
Stoppered.Capped and Tube-stoppered Oil Bottles.  
Syrup Bottles, with Plug Stoppers of Dark Blue or  
White Opaque Glass.Lozenge Jars with Cut Glass Knobs.  
Cut Perfume Bottles, Round, Oval, and Square.  
Shop Jars of Best Porcelain, thoroughly Grease-  
proof.Labels Indestructible and of Elegant Appearance, forming an  
even surface with the Glass or Porcelain.

## PRICE LIST ON APPLICATION.

A Large Variety of Samples on Show at

H. POTHS & CO.,  
4 SUGARLOAF COURT,  
50 LEADENHALL STREET, LONDON, E.C.Amongst others the following have been supplied with these bottles  
and jars:—Bradford & Co., Bridlington Quay; Blichner, M., 124 High Street, White-  
chapel, London, E.; Corry, T. C. S., Dr., Belfast; Cottingham W., Lincoln;  
Croydon, E. H., Newcastle-under-Lyme; Davis, Hayton, High Harrogate;  
Donovan, Richd., Blackrock, near Dublin; Dorrant, G. R., Hertford; Hall,  
Ralph, 552 Kingsland Road, London, N.; Howell, E. H., & Co., Narberth;  
Jenkins, J. T., Nottingham; Macmillan, John, Glasgow; Potts, Charles,  
Ikeston; Proctor, Wm., & Son, Newcastle-on-Tyne; Roberts, D. P., Croy-  
don, Surrey; Robinson, H., Bailleul, near Leeds; Saunders, A., Waltham-  
stow, London; Sharp & Son, High Street, Notting Hill, London, W.;  
Southern, J., Manchester, opposite the Assize Court; Taylor, P. N., 14  
Basingball Street, London, E.C.; Twinberrow, W., & Son, 80 Wigmore  
Street, London, W.; Waterfall, Geo., & Sons, Nottingham.

# GEORGE TREBLE & SON,

Druggists' Shops Fitted and Furnished complete with Fixtures, Bottles, Jars, Carboys, and Specie Jars by contract.

Plans and Estimates supplied.

DRUGGISTS' SHOP FITTERS BY CONTRACT.

OFFICE S

72, 74, 76, 78, & 80 CRONDALL STREET

Steam Works—

44, 46, 48, 50 & 52 WHITMORE RD., & BRIDGE WHARF, REGENT'S CANAL,

## HOXTON, LONDON, N.

Agents—S. MAW, SON & THOMPSON, 7 to 12 ALDERSGATE, CITY.

NOTICE! 66 PENTONVILLE ROAD, N. Sole Address.

## W. J. LEMAITRE & CO.,

(ESTABLISHED 1830)

Medical and General

## SHOP FITTERS WRITERS, DECORATORS, &c.

ESTIMATES FREE.

SHOW JARS AND COVERS.  
MEDICAL LABELLING.  
WOOD AND GLASS LETTERS.  
FACIAS AND WIRE BLINDS.  
BOTTLES, CARBOYS, ETC.

NOTICE! 66 PENTONVILLE ROAD, N. Sole Address.

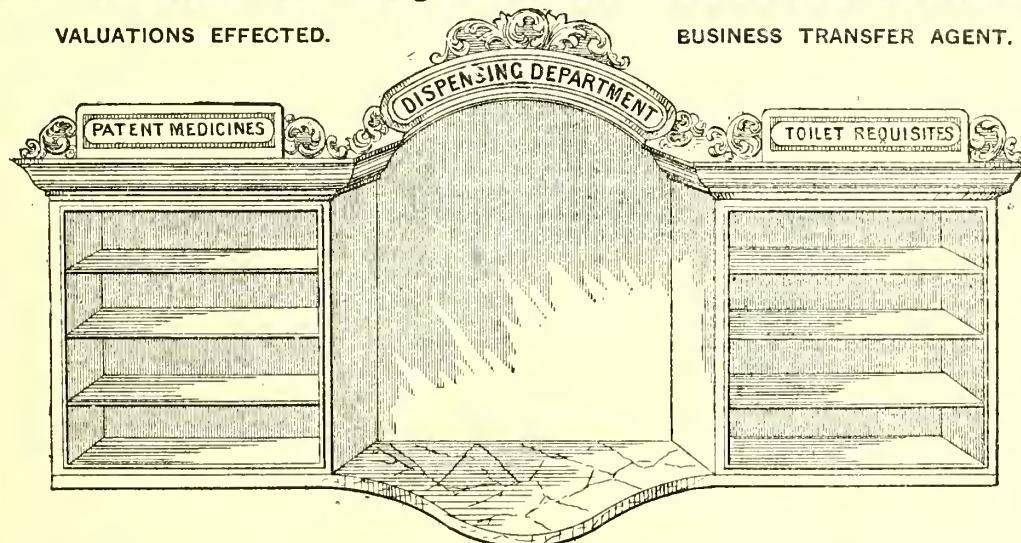
## R. TOMLINSON, DRUGGISTS' SHOP-FITTER, SHOW-CASE MAKER, AND MANUFACTURER OF DRUGGISTS' SUNDRIES,

15 St. PAUL'S SQUARE, BIRMINGHAM.

VALUATIONS EFFECTED.

BUSINESS TRANSFER AGENT.

This Case is made of choice Mahogany, with Mirror in centre, and is lined at back with Black Enamelled Leather Cloth; it has Plate-Glass Shelves, Glass Knobs on the Doors, Marble Slab in the Centre, and is fitted with Three Shelves at back. The Case is 6 feet long, 29 inches to corners, 33 inches to top of tablets, and 36 inches to top of centre mirror.



Second-hand Fixtures for Sale, Jars, Globes, Drawers, Bottles, Counter Glass Cases, Shelves, &c.

SECOND-HAND FIXTURES OF ALL KINDS BOUGHT AND EXCHANGED.

R. T. will wait upon parties fitting up, to plan and advise. 2nd-class fare only charged. FOR SALE, FIXTURES FOR SHOP ABOUT SIXTEEN FEET BY TWELVE. WRITE FOR LIST.

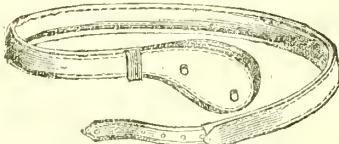
For Export or easy transit it is admirably adapted, as it takes to pieces, and can be fixed again in an hour. Packs into Case 34 by 36 at a cost of 10s., 3s. of which is allowed for the empty box, and the full value allowed if returned carriage paid. Price, £8 10s.



**W. H. BAILEY & SON,**  
**38 (late 16) OXFORD ST., LONDON,**  
 Six doors from Hanway Street.  
 ESTABLISHED A.D. 1833.

FIRST PRIZE (SILVER MEDAL) FOR TRUSSES AWARDED BY THE WORSHIPFUL COMPANY OF CUTLERS OF THE CITY OF LONDON, MAY, 1879.

FIG. 1.



TRUSSES.

Circular Trusses, single, as Fig. 1, basil and chamois or basil and moleskin .....

FIG. 4.

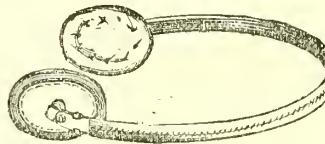
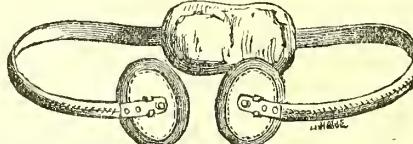


FIG. 5.



per doz. £1 1 0

per doz. 1 14 0

per doz. 2 14 0

per doz. 1 10 0

per doz. 3 0 0

each 0 8 0

each 0 13 6

each 0 6 0

each 0 12 0

each 0 4 0

each 0 7 0

SUSPENSORY BANDAGES.

per doz. £0 8 0

per doz. 1 4 0

## SUSPENSORY BANDAGES—continued.

No. 6. Silk Oxonian, superior quality, bands of buff jean, with drawing-strings .....

7. Silk Bags, to button on, with tape under-straps .....

8. " " " under-straps to button .....

## ELASTIC STOCKINGS, KNEE-CAPS, ETC.

Manufactured expressly for Export, and warranted to stand a hot climate better than any others in the Market.

Silk. Super. Cotton. Super. Cotton.

| Silk.    | Super. Silk. | Cotton.  | Super. Cotton. |
|----------|--------------|----------|----------------|
| £. s. d. | £. s. d.     | £. s. d. | £. s. d.       |
| 0 10 0   | 0 15 0       | 0 6 0    | 0 7 0          |
| 0 6 6    | 0 10 6       | 0 4 0    | 0 5 6          |
| 0 7 6    | 0 10 0       | 0 4 6    | 0 6 0          |
| 0 5 6    | 0 8 6        | 0 3 10   | 0 5 0          |
| 0 2 3    | —            | 0 1 8    | 0 2 0          |
| 0 16 0   | 1 5 0        | 0 9 2    | 0 12 1         |
| 0 16 6   | —            | —        | 0 12 0         |

Stockings .....

Knee-caps .....

Calf-pieces .....

Socks .....

Wristbands .....

Knee Stockings .....

Belts, to draw on .....

each 0 16 6

The above may be obtained direct from the Manufacturers, or from their Wholesale and Export Agents, Messrs. Barclay & Sons, 95 Farringdon Street.

# COLTHURST & HARDING,

PHÆNIX COLOUR WORKS, BRISTOL,

Also Petroleum and Benzoline Stores at Gloucester,

MANUFACTURERS OF

# WHITE LEAD, PAINTS, AND COLOURS

of

all kinds;

Also VARNISHES of every Description

For Painters, Coachbuilders, and Japanners,

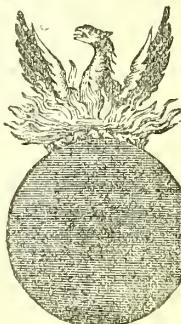
packed in Casks and Tins of all sizes.

## PAINTS IN TINS

TRADE  
Ball denotes

All Colours in 1, 2, 4, 7, and 14 lbs.

SOFT SOAP, GREASES, LINSEED



## MIXED FOR USE.

MARK.  
Colour of Paint.

All Colours in 1, 2, 4, 7, and 14 lbs.

MEAL, AND CRUSHED LINSEED.

## IMPORTERS OF

Petroleum, Benzoline, Gasoline, Turpentine, Olive, Colza, Cod, Castor, Seal, Whale, and Sperm Oils; Tallow, Pitch, Rosin, &c., &c. Sole Proprietors of the

## CELEBRATED ELECTRIC LIGHT OIL

The most beautiful and perfect Illuminator.

OIL REFINERS AND DRYSALTERS.

# NEW IMPROVEMENTS IN PHARMACY.

## THE BURROUGHS INHALER.

"Is an ingenious and convenient device for inhaling chloride of ammonium fumes. By its use the chloride of ammonium is brought in more intimate contact with the mucous surfaces of the passages of the nose and throat than by any other form of inhaler."—THE MEDICAL PRESS AND CIRCULAR Reports.

For full Notes and Reports see front pages of THE LANCET. May 6th.

## KEPLER EXTRACT OF MALT.

THE LANCET says of the Kepler Extract of Malt: "The best known, and in this country the largest used, Extract of Malt. It is as distinct an advance in therapeutics as was the introduction of cod-liver oil. It is one of our best For Wasting remedies for atonic dyspepsia, and is undoubtedly useful in consumption and other Diseases. wasting diseases." And further adds, "It is very good, and may be used with confidence."

For full Notes and Reports see front pages of THE LANCET, May 6th.

## McK. & R. CAPSULED PILLS.

An important improvement has been made, which now renders the most offensive and repulsive drugs easy of administration. This improvement consists in perfectly sealing with a thin transparent capsule of gelatine all drugs, such as quinine, morphia, rhubarb, &c., also the various pills and powders of the Pharmacopœia. These capsules are of an ovoid shape, and it has been demonstrated beyond question that when ordinary coated pills are rejected by patients there is not the slightest difficulty in administering this new form.

For full Notes and Reports see front pages of THE LANCET. May 6th.

## KEPLER COD-LIVER OIL WITH EXTRACT OF MALT.

This is an emulsified combination of the purest fresh Norwegian Cod-Liver Oil with 50 per cent. of Extract of Malt (Kepler).

So combined, the oil is subdivided into minute particles, which can be seen under the microscope to be as fine as the granules of milk, and much finer than any that can be obtained by any emulsion with gums. On the fineness of the emulsion depends the digestibility of the oil. "The digestive change undergone by fatty matters in the small intestine consists mainly in their reduction into a state of emulsion, or division into infinitely minute particles."

For full Notes and Reports see front pages of THE LANCET, May 6th.

## THE BURROUGHS BEEF AND IRON WINE.

"This is a really valuable preparation, and, as far as we know, a novelty. It contains beef-juice and citrate of iron in solution in wine, and is therefore a very powerful and rapidly-acting tonic. Children, as well as adults, take it easily, and as its taste is by no means unpleasant, it can hardly fail to attain great popularity. In many cases of scrofula and rickets we have given it with the most gratifying results."—THE LANCET Report.

For full Notes and Reports see front pages of THE LANCET. May 6th.

## LAWTON'S ABSORBENT COTTON.

"Has been pronounced by some of our most eminent surgeons the very best absorbent for taking up discharges; it is very fine and soft, and acts instantly."—THE MEDICAL PRESS AND CIRCULAR.

For full Notes and Reports see front pages of THE LANCET, May 6th.

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"Are a great improvement on the hard, unpalatable lozenges which have so long done duty in the Pharmacopœia. The Chlorate of Potash and Chlorate of Potash and Borax will be found useful in throat affections, whilst the Bicarbonate of Potash and Bicarbonate of Soda Tablets will prove efficacious in dyspepsia. The Soda Mint, or Neutralising Tablets, will earn the gratitude of many a flatulent dyspeptic."—THE LANCET.

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Their convenience and utility will at once be apparent on examination.

|                  |              |                    |              |
|------------------|--------------|--------------------|--------------|
| Morphiae Sulphas | 1-3 grain.   | Morphiae Sulphas   | 1-8 grain.   |
| Morphiae Sulphas | 1-4 grain.   | Atropiae Sulphas   | 1-200 grain. |
| Morphiae Sulphas | 1-6 grain.   | Morphiae Sulphas   | 1-12 grain.  |
| Morphiae Sulphas | 1-8 grain.   | Atropiae Sulphas   | 1-250 grain. |
| Morphiae Sulphas | 1-12 grain.  | Atropiae Sulphas   | 1-60 grain.  |
| Morphiae Sulphas | 1-3 grain.   | Atropiae Sulphas   | 1-100 grain. |
| Atropiae Sulphas | 1-120 grain. | Atropiae Sulphas   | 1-150 grain. |
| Morphiae Sulphas | 1-4 grain.   | Strychniae Sulphas | 1-60 grain.  |
| Atropiae Sulphas | 1-150 grain. | Strychniae Sulphas | 1-100 grain. |
| Morphiae Sulphas | 1-6 grain.   | Strychniae Sulphas | 1-150 grain. |
| Atropiae Sulphas | 1-180 grain. |                    |              |

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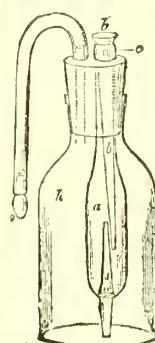
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BRILLIANT APPEAR-  
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## Literary Contents.

|  | PAGE |
|--|------|
| Month .....  | 467  |
| Corner for Students .....                              | 467  |
| Pharmacalia .....                                      | 468  |
| The Pharmaceutical Council .....                       | 469  |
| Spurious Drugs .....                                   | 469  |
| Pharmaceutical Society of Ireland .....                | 470  |
| British Pharmaceutical Council .....                   | 472  |
| Chemists' Aerated and Mineral Waters Association ..... | 472  |
| Chemical Society .....                                 | 473  |
| Rectification of the Register .....                    | 474  |
| Duties on Medicines in Victoria .....                  | 476  |
| Pharmacy in Australia .....                            | 477  |
| Manufacture of Dynamite .....                          | 478  |
| Peptonised Foods .....                                 | 479  |
| Chilblains .....                                       | 479  |
| Poisonous Properties of Cassava .....                  | 480  |
| Legal and Magisterial .....                            | 480  |
| Banknotices and Liquidations .....                     | 483  |
| Notes from Parliament .....                            | 483  |
| Veterinary .....                                       | 483  |
| Poisoning Cases .....                                  | 484  |
| Notes of Novelties .....                               | 484  |
| Clippings and Pickings .....                           | 485  |
| Medical Gleanings .....                                | 486  |
| Miscellaneous Formulae .....                           | 487  |
| Editorial Notes—                                       |      |
| Dr. Greenhow's Report .....                            | 488  |
| A. Medical Coronet .....                               | 489  |
| The Alizarine Ring .....                               | 490  |
| Spurious and Worthless Drugs .....                     | 490  |
| Reviews and Literary Notes .....                       | 492  |
| Scientific Notes .....                                 | 494  |
| Personalia .....                                       | 496  |
| Obituary .....   | 496  |
| Dr. G. W. Septimus Piesse, and Portrait .....          | 496  |
| Metropolitan Reports .....                             | 497  |
| Provincial Reports .....                               | 497  |
| Trade Notes .....                                      | 499  |
| Patents .....  | 500  |
| Exchange Column .....                                  | 512  |
| Trade Report .....                                     | 504  |
| Monthly Prices Current .....                           | 506  |
| Correspondence .....                                   | 508  |
| Gazette .....  | 510  |

THE issue of THE CHEMISTS' AND DRUGGISTS' DIARY for 1883 commences this day. The Orient steamer leaving London to-day will convey a large part of our Australasian edition, and we hope that all these will be delivered before the end of the current year. We shall get off the rest of our foreign copies by the mails of the next week or so, and before the end of this month we expect to despatch all copies for the United Kingdom. This year all copies in the United Kingdom and a good many in Australia and New Zealand will be delivered by the Globe Parcels Express or their agents. No charge for delivery should be made in any case; but if by mistake anything for delivery should be demanded of any subscriber, he is requested to pay the same, take a receipt, and let us have it, when we will promptly refund the amount.

The Diary for 1883 contains as its most particular feature a treatise on veterinary treatment, expressly prepared for the use of chemists and druggists. The diseases of horses, cattle, sheep, pigs, dogs, goats, poultry, canaries, rabbits, &c., are described as fully as the space will admit, and their proper treatment indicated. There are besides a number of formulæ, and we believe this treatise will provide as much veterinary information as the majority of chemists and druggists need to know; and all of them, in town as well as in country, want some such information occasionally. This treatise has been revised for us by an eminent veterinary surgeon. Besides this will be found a number of legal articles, expressly written for this Diary by a lawyer, on tenancies, dissolution of partnerships, the year's legislation, &c. Also, an unusual variety of information of a special and of a general character.

Any subscriber wishing for an extra copy of this Diary can have it for 2s. 6d., including delivery; to non-subscribers the price is invariably 3s.

## CORNER FOR STUDENTS.

CONDUCTED BY RICHARD J. MOSS, F.C.S.

THE subject of the next exercise will be a *metallic alloy*. It is to be submitted to a complete systematic examination, designed to detect all its constituents, and to demonstrate the absence of other substances. A list of the metals detected is to be given, distinguishing those that are present in quantity from minor constituents.

Applications will be received up to November 20, and portions of the alloy will be sent to applicants on the 25th.

Students' reports will be received up to December 15.

### REPORTS.

The alloy which formed the subject of the last exercise consisted of lead, tin, and zinc in about equal quantities, and the only metals present in notable amount as impurities were arsenic and iron.

In September we pointed out the advantage of employing nitric acid as a solvent in the analysis of certain alloys; in the present case the use of nitric acid afforded a means, at the very outset, of separating the tin from the two other metals, and after the removal of the tin the analytical character of the two remaining constituents was sufficiently marked to admit of their detection by very simple means. The nitric acid solution filtered from the insoluble hydrated metastaannic acid gave a precipitate with hydrochloric acid. This precipitate, it should be observed, was not produced in a warm solution (unless concentrated), consequently it might be overlooked. It must also be remembered that a considerable part of the lead is separated as chloride if the liquid be thoroughly cooled and allowed to stand an hour or so to give time for crystallisation. It is a decided advantage to remove most of the lead in this way, as there is less to be precipitated as sulphide, and consequently the examination of the sulphides is simplified, and heavy metals present in small quantity are more easily detected.

When the filtrate from the sulphurated hydrogen precipitate was boiled to expel the dissolved gas, then a few drops of nitric acid added, and again boiled to oxidise any iron present, and ammonia added, there was a considerable precipitate produced at first, but on continuing the addition of the ammonia until it was in decided excess nearly all the precipitate dissolved, a small quantity of reddish-brown flocculent precipitate only remaining. It is recommended by many authorities to add ammonium sulphide at this stage, while others prefer to filter off the ammonia precipitate and examine it separately. Both methods have their advantages, and neither of them can be recommended in every case. In the present instance, the latter method was to be preferred, as on filtering off the ammonia precipitate it was easily ascertained that it was due to iron only, while the filtrate gave with ammonium sulphide a white precipitate which clearly consisted of zinc sulphide only.

Judging from the small number of competitors that we have had for the last few months, students are not partial to the analysis of alloys, which certainly possess some special advantages from an educational point of view. We hope to have a larger number of papers to examine next time.

### PRIZES.

The First Prize for the best analysis of the alloy has been awarded to W. MILLER, Wellington, Somerset.

The Second Prize has been awarded to R. ARROWSMITH, Eccleshall, Staffordshire.

### Marks Awarded for Analyses.

|                              |    |    |    |    |    |    |    |
|------------------------------|----|----|----|----|----|----|----|
| W. Miller (1st prize) ..     | .. | .. | .. | .. | .. | .. | 90 |
| R. Arrowsmith (2nd prize) .. | .. | .. | .. | .. | .. | .. | 87 |
| M. E. E. E. ..               | .. | .. | .. | .. | .. | .. | 82 |
| Sigma ..                     | .. | .. | .. | .. | .. | .. | 80 |
| Gerth, G. ..                 | .. | .. | .. | .. | .. | .. | 75 |
| J. J. B. Woods ..            | .. | .. | .. | .. | .. | .. | 75 |
| J. B. C. ..                  | .. | .. | .. | .. | .. | .. | 70 |
| Spero ..                     | .. | .. | .. | .. | .. | .. | 60 |
| T. Carswell ..               | .. | .. | .. | .. | .. | .. | 50 |
| E. S. Camping ..             | .. | .. | .. | .. | .. | .. | 45 |

## TO CORRESPONDENTS.

*Prizes.*—The students to whom prizes are awarded are requested to write at once to the publisher, naming the book they select, and stating how they wish it forwarded.

Any scientific book that is published at a price not greatly exceeding half-a-guinea may be taken as a first prize.

Any scientific book which is sold for about five shillings may be taken as second prize.

\* \* \* All communications should include the names and addresses of the writers.

*W. Miller.*—It is gratifying to learn that the Corner for Students has been so useful to you.

*M. E. E.*—Please note the above paragraph marked \* \* \*.

*Sigma.*—We have little fault to find with you except as regards antimony.

*J. J. B. Woods.*—In testing for aluminium, &c., you appear to have obtained a precipitate with an excess of ammonia, and in the filtrate ammonia gave a further precipitate; this is clearly impossible. It is, however, very difficult to tell what precipitate or what filtrate you refer to from the way you state your results. You will find it an advantage to keep your notes in a tabular form, such as you will find in works on analysis or in Attfield's Chemistry.

*J. B. C.*—Mere staining of the platinum is not of itself sufficient evidence of antimony, you must examine the stain and see whether it is really antimony.

*Spero.*—Your ammonium sulphide solution may be decomposed, otherwise it is difficult to explain why it gave no precipitate in a solution which certainly contained zinc.

*T. Carswell.*—You will find it instructive to repeat the test you used to detect mercury, employing, say, mercuric chloride. Also, to experiment on the reactions of zinc, employing a solution of the sulphate. Having done this, you will no doubt understand the reason why you obtained the results described in your paper. It is only by practising with substances of known composition that you can learn to detect the constituents of mixtures of unknown composition.

*E. S. Camping.*—Under the circumstances, your paper is not bad. You ought to continue your work. A good book is essential; Attfield's Chemistry will probably suit you best, or, if you desire a purely analytical work, get the last edition of Fresenius' "Qualitative Analysis."

## Pharmacalia.

## THE DISCOVERY OF OXYGEN.

THE fair fame of Lavoisier as one of the discoverers of oxygen, and the first to understand the nature of the discovery which he had made, has been called in question; but the French philosopher has found an energetic defender in Mr. G. F. Rodwell. He appears to put the matter in a clear light, and, by not overstating his arguments, to arrive at a most satisfactory conclusion. There is a kind of mania in the present age to upset ancient landmarks of opinion; and no one can feel sorry to be able to accept with confidence the declaration of M. Wurtz—"Chemistry is a French science. It was instituted by Lavoisier of immortal memory."

No less authority than Professor Huxley, in his Birmingham address on Priestley, considers that Lavoisier undoubtedly treated the former with unfairness, and pretended to have discovered dephlogisticated air, or oxygen, as he called it, independently; adding, however, with his usual largeness of thought, "We can almost forgive him when we reflect how different were the ideas which the great French chemist attached to the body which Priestley discovered." So fine an allowance almost disarms criticism; but Dr. Thomas Thomson, in his "History of Chemistry," brings forward charges of a very specific character. He states that the claim of Lavoisier is entitled to no attention whatever, for that Priestley had prepared the gas in question at Lavoisier's own house in Paris, and had showed him the mode of its preparation in 1774, a considerable time before the date assigned by the Frenchman for his pretended discovery.

He accuses Lavoisier of ignoring the experiments of Priestley, and of never hinting that the latter had already obtained oxygen gas by heating red oxide of mercury. When Lavoisier expresses his surprise that oxygen was not capable of combination with water by agitation, Dr. Thomson wonders that such a feeling should have been excited while describing phenomena which had been already shown.

In answer to these strictures it is remarked that Lavoisier, describing oxygen, terms the gas: "That air which Priestley Scheele, and myself discovered at about the same time; called by the first dephlogisticated air; by the second, empyreal air; and (by myself) at the onset, air eminently respirable; and subsequently, vital air."

Lavoisier was too modest in his statement, for on November 1, 1772, he deposited a Note with the Secretary of the Academy which contained his experiments relating to sulphur and phosphorus, which, on being burnt, gained instead of losing weight, without taking into account the humidity of the atmosphere. This he traced to the fixation of air during the combustion, and surmised that the gain of weight by metals during calcination was due to the same cause.

"It is easy to see (wrote Lavoisier just before his death), that I had conceived since 1772 the whole system which I have since published on combustion."

Early in 1774 he published experiments to show that lead and tin, heated in close vessels, gained weight, and caused a diminution in the volume of air. Hence he argued that a portion of the air itself, or of some matter contained in the air, and which existed in it in an elastic state, combined with metals during calcination.

Later, in a memoir "On the Calcination of Tin in Closed Vessels," he concluded that only a part of the air could combine with metals or be used for purposes of respiration; and that hence the air is not a simple body, as generally believed, but composed of different substances; adding that his experiments on the calcination of mercury, and the revivification of the calx, singularly confirmed him in this opinion.

Further, in a subsequent communication, while discoursing on the "nature of the principle" which combines with metals during their calcination, with increase of weight, there is this remarkable sentence:—"Having heated calx of mercury with carbon, he found that fixed air *soluble* in water was given off, while, when he heated it alone, he observed with much surprise that an air was produced *insoluble* in water, readily supporting combustion, serving for the calcination of metals, incapable of precipitating lime water, and incapable of being absorbed by alkalis.

Priestley, obtaining a gas from mercury calcinatus *per se*, on August 1, 1774, finding it insoluble in water, and a supporter of combustion, concluded that the mercury during calcination had absorbed nitrous particles from the air; nor was it until March, 1775, that he found out the real nature of the gas.

The visit of Priestley to Paris took place in October, 1774, during which he mentioned to several savants, Lavoisier amongst the rest, how he had produced a gas from mercury calcinatus *per se*.

It is noteworthy that Lavoisier constantly mentions the names of Priestley and Scheele with regard to oxygen, never saying more than that it was discovered at about the same time by both of them and by himself. When, in his next memoir, he has to talk about "The Existence of Air in Nitrous Acid," he informs the public that the experiments given in his paper were not, strictly speaking, his own; perhaps even there was not one that did not properly belong to Mr. Priestley, to whom the original idea was due.

Throughout he awards the praise to the English philosopher, and disclaims originality of conception.

Supposing (observes Mr. Rodwell) that Priestley had demonstrated the production of oxygen to Lavoisier before he himself had obtained it, a point which is not probable, still Lavoisier had investigated its chief properties before Priestley knew more concerning it than that it was a gas containing nitrous particles. In March, 1775, Priestley confessed that he had no suspicion of its being wholesome; then he "was confirmed in his conclusion that the air extracted from mercurius calcinatus was, at least, as good as common air, but he did not certainly conclude that it was any better." At this time Lavoisier had taken the new gas, burnt in it a candle, and performed with it the now familiar phenomena of the combustion of charcoal and phosphorus. Who, then, is the discoverer? Is it the man who finds a new body for the first time without recognising its essential properties, or the man who demonstrates the true nature of that which he has discovered?

In the present instance, there seems no foundation for denying the claim of Lavoisier to originality; while the splendid use he made out of his investigations has never been a subject of dispute.

\* \*

#### MR. J. T. CLOVER AND ANÆSTHETICS.

The name of Mr. Joseph Thomas Clover will long be associated with the use and administration of anæsthetics. The state of health of the lamented surgeon, whose death is a loss to a special branch of practice, prevented him from obtaining the highest honours in his profession. Born in Norfolk, he came to London and studied at University College, where he attracted the personal notice of Mr. Syme, then surgeon to that hospital. Becoming resident medical officer, his strength was severely taxed by the appearance of the great cholera epidemic of 1849, and constantly recurring illness obliged him to relinquish ordinary practice, and to restrict himself to the administration of anæsthetics. This more limited sphere of action was yet sufficient to enable him to acquire a distinctive reputation: he was an authority in his own department, and was connected with the rise and progress of the beneficial application of pain-alleviating vapours, simple or compound. From the first administration of ether a new era in surgery was opened. The life of Mr. Clover is to some extent the history of the various anæsthetic agents known to medicine. His researches on the use of nitrous oxide gas brought him prominently into notice some twelve years ago, and since that date the chief aim of his labours has been to discover in what way different vapours may be utilised with the least danger and inconvenience. It will be needless to state that to unusual knowledge of his subject Mr. Clover joined exceptional manipulative skill, and that his dexterity of hand was remarkable.

Many pieces of apparatus bear his name, showing cleverness of design; and, amongst others, he devised a method by which the vapour of chloroform, being received into a portable bag attached to the inhaling apparatus, was mixed with regulated quantities of air, so that this or any other anæsthetic could be administered with any degree of dilution with extreme readiness. To him is due the idea of administering ether and nitrous oxide gas in a mixed state, much unpleasantness being thus avoided. By means of an ingenious tap, one, the other, or both, could be given at will; and thus, while a more brilliant career might have been anticipated for Mr. Clover, he may claim a full meed of praise for having made his mark, though sickness, like an attendant shadow, seemed to forbid success.

#### The Pharmaceutical Council.

AT the meeting on November 1 all the members were present. Mr. Carteighe, President, Mr. S. R. Atkins, Vice-President.

After the election of members, &c., it was reported by the Registrar that he had added the name of John Michell Humble, Marsh House, Rothwell, near Leeds, to the register in accordance with the statute.

The Finance Report was of the usual character, and was passed without comment.

The Library, Museum, Laboratory, and House Committee presented their usual report, acknowledging various gifts, and recommending several purchases. It was stated that the number of books and pamphlets in the library on September 30 was 8,513.

The Benevolent Fund Committee recommended a grant of 10/- to the widow of a registered chemist and druggist. They had postponed consideration of another application, and had declined to entertain a third. The Council, however, after considering the report in committee, decided to refer this case again to the committee.

The General Purposes Committee's report included the solicitor's report, from which it appeared that Mr. J. F. Cray, of Blackfriars Road, Manchester, who had been sued for breach of the Pharmacy Act, had paid the penalty and costs without action. Other cases of alleged infringement of the Pharmacy Act had been considered by the committee, and in some the solicitor had been instructed to proceed.

#### SPURIOUS AND WORTHLESS DRUGS.

Mr. WILLIAMS brought under the notice of the Council the public sale in London of spurious and worthless drugs. He mentioned that a ton and a half of worthless and rotten ipecacuanha was sold at auction in London not long since at a good price, and he showed a sample of jalap which, he said, had had all the jalapin taken out of it in Paris, and, after being dried, had been sent back to this country, and had been resold as jalap. Other cases, such as balsam of tolu containing 40 per cent. of resin, might be mentioned. Several wholesale druggists were anxious that something should be done to remedy this state of things. Some wanted a power to destroy absolutely spurious drugs, as spurious fish or spurious tea was now destroyed. The American Government appointed inspectors of drugs, and the importation was prohibited of such drugs as did not come up to a certain fixed standard. Such a measure might tend to drive trade away from a market like London; but he wanted to know whether the Council would be inclined to join with certain members of the wholesale trade to make a representation to Government if a sufficient series of properly-authenticated cases was brought forward. They would thus prove that they took an interest in the welfare of the general public. No doubt much might be said on the other side of the question, but he hoped the society would encourage the wholesale houses to bring about a healthier state of things by promising them their support.

Mr. HAMPSON thought a committee ought to consider this question. It would require careful management, or they might get more Government interference than they would like.

Mr. SYMES suggested that one of the existing committees might deal with the question.

The PRESIDENT thought so too, and remarked that it might do good if a paper dealing with the subject were read at an evening meeting.

Mr. WILLIAMS said the Adulteration Act did not affect wholesale dealings. He recognised that it was desirable that legitimate wholesale trade should not be interfered with.

Mr. Woolley, Mr. Savage, and Mr. Richardson agreed with the view expressed of the importance of the subject. Mr. Greenish and the Vice-President urged Mr. Williams to prepare a paper for an evening meeting. Mr. Robbins said that the publication of the fact that such and such adulteration was being practised, and the means of detecting it, had checked such practices in the past, and would again.

Mr. SCHACHT, while recognising that as a body of pharmacists it came within their province to ascertain and publish

the facts connected with the adulteration of drugs, questioned whether the action proposed came within the legitimate work of the Council. They might run the risk, if they went to the root of the evil, of absolving the wholesale druggists from their legitimate duty of satisfying themselves that the drugs they bought and sold were good. He was disposed to think that the Council must be content with exposing the evil.

Mr. SYMES urged the appointment of a committee, on the ground that they would thus carry out one of the objects for which the society had been founded, namely, the protection of chemists and druggists. There was no difficulty in detecting the worthlessness of such jalap and ipecac. as had been shown; but the discrimination was less easy when the drugs were powdered. Mr. Schacht's argument did not necessarily oppose the appointment of a committee, because such a committee would not undertake any responsibility of action.

Mr. GREENISH supported Mr. Schacht's views, and mentioned how that the exposure by his son of some rose leaves coloured with magenta had had the effect of removing those rose leaves from the domain of medicine.

Mr. ANDERSON supported the appointment of a committee. The practice had been frequently exposed, but the evil still went on.

Mr. SAVAGE thought an inspector who would examine the imports would meet the case, and Mr. Bottle also wished this to be done, as meat and fish were examined by inspectors in Billingsgate and Smithfield.

Mr. GOSTLING thought chemists should be able to procure good powdered drugs, but he was afraid of Government interference. He thought a person like the curator visiting the drug market, and reporting upon it, would meet the case.

Mr. Woolley and the Vice-President agreed with the appointment of a committee. Mr. Squire thought anyone who had passed the Mino. could detect the worthless character of the drugs which had been referred to. Mr. Hills, however, remarked that the committee would collect useful information. The drug market was not quite parallel with the meat and fish markets, because a drug, which might be quite useless for one purpose, might be useful for another.

Mr. CHURCHILL pointed out the hardship of an honest man being undersold by persons content to buy cheaper goods, and, while not decided whether an inspector ought to be appointed, saw no harm in forming a committee.

Mr. WILLIAMS, in replying, said the buyers of these spurious articles were as well known as the sellers. The general statement was, that such goods went abroad. There seemed to be a sale somewhere for all the rubbish that could be collected in the London market. He might inform Mr. Greenish that rose leaves coloured with magenta were still on the market, and were purchased in London. He moved the appointment of a committee to consider and report upon this subject, consisting of the President and Vice-President, Messrs. Greenish, Hampson, Richardson, Symes, Williams, Woolley, and Young, with power to add to their number.

Mr. SYMES seconded the motion, and after a few words in support of it by the President, it was unanimously adopted.

#### THE LATE MR. ALLCHIN.

THE VICE-PRESIDENT said a telegram had been received announcing the death, that morning, of Mr. Allchin, who was one of the earlier Major certificated men, had once been demonstrator in the school, and had been for some years one of their examiners. As Vice-President he had come into close contact with him, and had learned to esteem him very highly. He moved that a letter of condolence should be sent to Mrs. Allchin, expressing the sympathy of the Council with her and the members of the family.

Mr. BOTTLE, who seconded the motion, spoke of Mr. Allchin as a genial and pleasant companion, whose loss he deplored very much. Mr. Savage, who had known Mr. Allchin as an apprentice at Brighton, wished to express his deep sympathy with the family, and Mr. Williams, who had known him as a student at the school, spoke of him as an old friend, and one of the most able pharmacists he had known. Mr. Andrews had known him a long time, though he had not been intimately acquainted with him. After

the Southampton meeting he had spent a few days with him in the neighbourhood of the New Forest, and was then painfully convinced that he was not long for this world. He could only say that he had never known a more amiable or more lovable man. Mr. Greenish, as an old friend, and the President, as a co-worker on the Board of Examiners, added their testimony to the deceased gentleman's worth. The motion was carried unanimously.

## Pharmaceutical Society of Ireland.

NOVEMBER 1, 1882.

THE chair was taken by Mr. PRING, and, subsequently, by the PRESIDENT (Dr. Tichborne).

After reading minutes, and re-electing the four examiners, the recommendation (No. 3) from the Pharmacy Act Amendment Committee was considered. It was as follows:—

"That all candidates for the licence shall be required to produce evidence of having passed three years in a *bond fide* apprenticeship to an apothecary or pharmaceutical chemist keeping open shop."

Mr. PAYNE moved, as an amendment, that the following be substituted:—

"Candidates, before presenting themselves for their final examination, are required to produce indentures of apprenticeship, duly signed by a pharmaceutical chemist or apothecary keeping open shop that the candidate has served a *bond fide* engagement of four years in his establishment."

He urged that a two years' certificate of practical pharmacy was not sufficient, and that the only satisfactory way of preparing young men for functions which were very important for the public was by apprenticeship. Even four years was a short period for the purpose. It had been said that apprenticeship had, to a great extent, ceased to exist, but he did not think that those who were practically engaged in pharmacy would agree with that. Young men could only be made practical pharmacists in a medical hall or pharmacy, where they got constant practical everyday work. He did not say that it was necessary that they should be employed for the whole four years in compounding prescriptions. The making of tinctures and the mixing of powders and pill-masses were matters to be learned; and during the first twelvemonths of his apprenticeship a young man would have very little chance of being allowed to compound prescriptions. He would have to spend the first two years in preparing himself for the task of learning how to compound the prescriptions. It had been urged that there were other subjects which he had to learn, such as *materia medica* and botany; but the fact was that he learnt these daily in his practice of pharmacy. Chemistry also he learned daily in the same way. Analytical chemistry, no doubt, he would not get; but provision had been made for that. Schools for the purpose of teaching it had been recognised by the Council, some of which, if not all, had evening classes. For all these reasons he thought a four years' service was necessary, in order to produce pharmacists in whom the physicians and the public would have confidence. He proposed that his resolution should become law from January 1, 1884.

Mr. W. ILWAINE seconded the amendment.

Mr. BRUNKER agreed with the requirement of four years' service, but did not approve of requiring from every candidate an indentured apprenticeship. Some of the best houses did not take apprentices; and such a hard and fast rule would prevent the rising generation from learning their business in those places.

Dr. COLLINS said that several years ago this question was considered at a general meeting of the apothecaries' profession, at which there was a large attendance, and it was then unanimously decided that an apprenticeship or pupilage of three years was long enough to fit a young man entering their branch of the profession for the important function of compounding medicines and for taking charge of an establishment during his employer's or master's absence. His own opinion was that unless a young man was extremely dull three years were sufficient for the purpose.

Mr. SIMPSON observed that in country establishments, where other businesses besides compounding had to be done,

it took the student a longer time than elsewhere to learn compounding. Therefore he was not in favour of a shorter period than four years.

Mr. PRING would have preferred a period of five years, but would accept four.

Dr. MONTGOMERY considered that the observations of Dr. Collins applied to apothecaries who looked forward to practice rather than to the compounding of prescriptions. But those who sought the licence of that Society should have every iota connected with the compounding of prescriptions at their fingers' ends; and he was a strong advocate for apprenticeship. Otherwise there would be many doors left open for imposition.

The PRESIDENT said in the abstract he had not the slightest objection to a period of five years if it was proved to be necessary; but they should not throw an impediment in the way of men presenting themselves for the licence. During the last 12 months only 17 candidates had passed; and that did not show such a rush to the profession as required a drag to be put on the wheel. Only one passed at the last examination. They knew that a man would be all the better compounder for having served six or eight years; but the Council should have due regard to the practical bearings of any regulations they made. He was of opinion that their licentiates came short in general knowledge of the sciences outside compounding. Although they were supposed to have passed an examination in those subjects their instruction in them was generally of the most superficial kind. There was one of these branches in which instruction was compulsory, and three more in which it was not. He did not agree with Mr. Payne that apprentices learned those things. On the contrary, they knew perfectly well that they did not learn either botany or *materia medica* thoroughly. A great many of them would not know rhubarb or hippo in the lump state because they generally saw them in the powdered form. (Cries of "No.") He was alluding to those who depended for such knowledge solely on what they could acquire during their apprenticeship. (No.) Coming to the question of apprenticeship, previous speakers had lost sight of the fact that there was a very large contingent of men who might present themselves for the licence and had had large experience, although they had never served apprenticeships. Four of the principal establishments in that city would not take apprentices. Mr. Payne was one of the gentlemen who objected to the recommendation going forward that there should be an examination for assistants. He thought that was hardly consistent with the position taken by him on the present occasion. He agreed that the Council should, if possible, do away with any certificate that would be a sham. (Hear, hear.) It should be a proof that the four years had been *bona fide* spent in compounding, and if that were so the student would have got his knowledge whether he were an indentured apprentice or not. As to the length of time, he thought it might be three years, and subsequently it could be increased to four.

Mr. WELLS said he knew of a house which took a large number of apprentices. They were not bound at first, but indentures were given to them when they were leaving after having served for five years.

Dr. COLLINS: That is not apprenticeship at all.

Mr. PAYNE, in the course of his reply, said he was sure that any one who had been an apprentice for four years in a pharmacy where practical work was carried on would recognise rhubarb-root or any other root in the *Pharmacopœia*. It was to be presumed that he would even learn to powder the root himself.

The PRESIDENT: I don't think there is one pharmacist in 20 who even makes his own tinctures.

Mr. PRING: We make our own tinctures.

Mr. ALLEN: So do I.

Mr. PAYNE: I don't think there is a tincture that we sell that we do not make in our place, and I presume it is the same with everyone round the table. In order to meet the views of the general body of the Council he would alter his amendment to the following:—

That all candidates for the licence shall be required to produce a certificate signed by a pharmaceutical chemist or apothecary keeping open shop, stating that he has served a *bona fide* engagement with him, either as apprentice or assistant, in his sole employment for a term of four years; this resolution to come into force on January 1, 1884.

The amendment was unanimously agreed to, and was subsequently adopted as a bye-law in place of No. 3 recommendation of the Pharmacy Act Amendment Committee.

Mr. PAYNE then moved the adoption of the following regulation:—

To entitle a candidate to pass his final examination he must have a majority of the votes of the examiners, of which that of the examiner in pharmacy must be one.

At the final examination there were three examiners—one in chemistry, one in *materia medica* and botany, and one in pharmacy. As their regulations at present stood, provided the candidate could satisfy the examiners in *materia medica*, botany, and chemistry, he could pass his final examination, although he knew little or nothing of practical pharmacy. He had been told by an examiner that on one occasion a candidate who was very good in two or three subjects, but could not satisfy the examiner in pharmacy, obtained a certificate. He (Mr. Payne) maintained that in order to obtain a certificate a man should be a good practical pharmacist.

Mr. WELLS seconded the motion.

Mr. ALLEN said he agreed in the main with Mr. Payne's resolution, but he objected *in toto* to the practice of the matter being decided by the examiners giving votes. It should be decided by a maximum and minimum number of marks. The latter had been the practice for years in the English Society. Mr. Bremridge, the secretary of that Society, had written to him stating that many years ago they followed the practice of passing the candidates by a majority of votes of the examiners, but that it had been found inconvenient and had been abandoned. He (Mr. Allen) would move the following amendment:—

To entitle a candidate to pass he must make with the Examiner in Pharmacy a minimum of 300 out of a maximum of 600; with the Examiner in Chemistry a minimum of 140 out of a maximum of 300; with the Examiner in *Materia Medica* and Botany a minimum of 140 out of a maximum of 300; and he must not have less than a total minimum of 650 out of a total maximum of 1,200.

According to this regulation, if the candidate had only minima in every subject he would not pass, because he would only have a total minimum of 580; consequently he would have to pull up with all or some subjects in order to qualify. This was the plan adopted in the Pharmaceutical Society on the other side. He (Mr. Allen) knew that the present examiners were in favour of this mode of proceeding—at least Dr. Duffey and Dr. Davy were.

The PRESIDENT said he agreed in the main with what Mr. Allen proposed. When he was an Examiner in the University he could state that the practice followed there was somewhat similar. A minimum of 40 per cent. passed the candidate in each subject. He (the President) was opposed to any candidate being allowed to pass who was deficient in any one subject, but he also objected strongly to the result of the examination being placed in the hands of any one examiner. So that he was in favour of Mr. Allen's system. At the same time he would suggest they should get a report from their examiners as to their views on the matter.

Mr. BRUNKER seconded the amendment of Mr. Allen.

Mr. PAYNE withdrew his resolution, and moved, in place of it, that the amendment of Mr. Allen be referred to a committee, consisting of the President, Mr. Brunker, Mr. Allen, and Dr. Montgomery, with a request that they would confer with the examiners on the subject.

This proposal was unanimously agreed to.

In pursuance of a resolution passed at the last meeting of the Council, the following committee were, on the motion of Mr. BRUNKER, seconded by Mr. WELLS, appointed to confer with four members of the Society not on the Council as to the best means of making the Society more attractive to the members:—Dr. Collins, Dr. Montgomery, Mr. Hayes, and Mr. Grindley.

Mr. John Evans, of Dawson Street, Dublin, apothecary and pharmaceutical chemist, was elected a member of the Society.

A report of the pharmaceutical examination held on October 4 stated that one candidate had passed and one had been rejected.

## BRITISH PHARMACEUTICAL CONFERENCE.

A MEETING of the Executive Committee was held at 17 Bloomsbury Square on Wednesday, October 18, 1882, at 4 P.M.

Present:—Professor Attfield, F.R.S., President, in the chair; Messrs. Bentley, Brady, Carteighe, Ekin, Groves, Naylor, Southall, Squire, Taylor, Dr. Thresh, and Messrs. Berger and Plowman (Hon. Secs.).

The minutes of the previous meeting were read and confirmed.

Letters of apology for non-attendance were read from Messrs. Kinninmont and Young.

The question of the cost of entertainment of visitors incurred by the towns in which the meetings of the Conference are held was considered. It was deemed advisable that the practice of the British Association should be followed as nearly as possible. It was therefore resolved—

That it be a general instruction to the local committees of towns in which the annual Conference is to be held that their arrangements, both in respect to the business of the Conference and the entertainment of its members, be approved by the Executive before publication, and that the attention of local committees should be called to the report of the Executive after the Sheffield meeting, in so far as it relates to questions of entertainment.

Respecting the place of meeting for 1883 the President reported that he had received a letter from Oxford, and which he had been directed by a previous Committee to acknowledge. It was from Mr. George T. Prior, who wrote to the effect that in the case of Oxford being selected as the town in which the British Pharmaceutical Conference would meet in 1883, the chemists of that city had deputed him to say that they would be glad to receive the Conference, and would do their best to help the Executive Committee in organising the meeting. They were too few in number to offer the hospitality that the members had received in other towns, but they would engage a meeting-room, arrange for hotel accommodation, and would endeavour to promote the objects and welfare of the Conference, and the comfort and convenience of visiting members.

The following is the President's reply:—

To Mr. G. T. Prior, Oxford.

MY DEAR SIR.—I am directed by the Executive Committee of the British Pharmaceutical Conference to thank the chemists of Oxford for their kind offer to give their best assistance in organising any meeting of the Conference that may be held in Oxford in 1883. I am also desired to acknowledge the kindness of Mr. Thomas Hongton in allowing himself to be put in nomination as a Vice-President of the Conference; Mr. Chas. Gerrard Hitchcock, for consenting to be a member of the Executive Committee; yourself, for agreeing to act as a local secretary; and Mr. H. Thurland, for being willing to perform the duties of an auditor. I am further to add that the Executive Committee was quite gratified to find that the pharmacists of Oxford purposed receiving the members of the Conference in a manner strictly in accord with the objects of the Conference, and with the already published wishes of the Committee. I, in common with the other members of the Committee, regret that the unforeseen circumstances which render Oxford unable to carry out the arranged meeting of the British Association in 1883 have obliged the Conference to postpone any decision respecting our own place of meeting for that year; for, as a rule, the Conference and the Association meet in the same town. For the same reason also we must postpone the acceptance of the services of yourself and colleagues. I shall doubtless again have the pleasure of corresponding with you after the Executive Committee has held a meeting.

Yours faithfully,

JOHN ATTFIELD.

A letter from the chemists of Southport was read, inviting the Conference to meet in their town in 1883. It was unanimously agreed to accept this invitation.

Respecting the invitation to meet in Aberdeen, as it was offered for 1884 as well as 1883, its consideration was postponed.

The following four officers, which the general meeting had given power to this Committee to appoint, were then elected:—Vice-President, Mr. W. P. Radley, Southport; Member of the Executive Committee, Mr. James Kershaw; Local Secretary, Mr. William Ashton; Auditor, Mr. Thomas H. Sykes.

The following fifteen gentlemen were elected to membership:—Mr. J. Barnett (Inverell, N.S.W.), Mr. S. Hardwick

(Bournemouth), Mr. E. G. Hooper (Melbourne, Victoria), Mr. J. W. Hosking (Woollongong, N.S.W.), Mr. A. B. Jefferson (Deniliquin, N.S.W.), Mr. R. F. Kennedy (Warrnambool, Victoria), Mr. A. Marshal (Heyfield, Victoria), Mr. R. Matthews (Adelong, N.S.W.), Mr. W. H. Mutlow (Armidale, N.S.W.), Mr. E. C. Patchett (Nottingham), Dr. P. Simonsens (Melbourne, Victoria), Mr. W. P. Timmins (Sydney, N.S.W.), Mr. J. Waller (Sandhurst, Victoria), Mr. B. J. G. Weaver (Armidale, N.S.W.), and Mr. Harold Woolley (Manchester).

## THE CHEMISTS' AÉRATED AND MINERAL WATERS ASSOCIATION (LIMITED.)

THE annual meeting of the Company was held at Anderston's Hotel on November 8, Mr. Horace Davenport in the chair. About 20 members were present.

The report submitted to the meeting stated that the directors considered the present position of the Association satisfactory. The summer had been an exceptionally bad one for the mineral-water trade, but the returns had nearly equalled those of the previous year, when a large sum was expended in advertising.

The Harrogate branch had proved a great boon to northern members, supplying them with the manufactured waters; its working showed a fair and increasing profit, but the sale of the Kissengen and other splendid natural waters had been disappointing.

The services of a salaried manager had again been dispensed with, the committees (ably assisted by the Secretary), having discharged the managerial duties.

The only medal given for B.P. aerated waters was awarded to this Association at the International Food Exhibition, London, 1881. The directors had arranged with the L.P.D.C. to collect free all cases of empties which, when full, had been delivered by them. Country empties are now collected from the Southern and Eastern London goods stations at 2d. per case. This charge the Association will be in a position to pay when the number of members is increased to 750. The number of members was now 615. It was 540 on Oct. 1, 1881, and 436 on October 1, 1880.

Messrs. Clark, Son & Platt and Messrs. Brown, Gould & Co. had generously allowed a large discount from their advertisement accounts, a discount which practically sacrificed their profit, thus saving the Association a considerable addition to preliminary expenses.

The directors recommended that a dividend should be declared at 9d. in the pound, or nearly 4 per cent., which would absorb 305*l.* 16s. 3d., that 10 per cent. should be written off the preliminary expenses (310*l.*), 200*l.* off plant, 50*l.* off the Harrogate concession, and that 231*l.* 6s. 7d. balance of profit should be carried forward.

The various accounts submitted showed sales in London amounting to 4,321*l.*; in Harrogate, 1,125*l.* 3s. 4d. The gross profit in London was 1,681*l.* 18s. 11*d.*, and in Harrogate 447*l.* 8s. 7*d.* Deducting general office expenses, directors' fees, rent, loss on bottles, advertisements, and sundry other expenses, London showed a net profit of 695*l.* 12s. 8*d.*, and Harrogate a net profit of 151*l.* 13s. 7*d.*

THE CHAIRMAN said they were a small party, as usual, and he supposed the small number indicated that the members generally were satisfied with the conduct of their affairs. It was not a merely formal expression to say they had pleasure in submitting the present balance-sheet. It was a great satisfaction that they could at last declare a dividend which had been honestly earned. It had been a very bad season for the mineral-water trade; indeed, the summer had been almost worse than the winter. But by being very careful about the expenses they were able to show a handsome profit. The results were even better than they seemed. Last year, in consequence of their extensive advertising, they had sold a much larger quantity of rubine than they had sold this year; but they had made this up by greater sales in soda, lemon, &c. Thus, as he had said last year, they were indirectly getting the benefit of their new shareholders, who had joined them in order to be able to supply their customers with rubine. What little advertising they did now was debited to profit and loss account. As an indication that the season had been generally a bad one, he mentioned that a swimming-

bath in which he held some shares had lately sent him a notice that they would not be able to pay the interest this year on their debentures. Mr. Wilson, who had come up from Harrogate, would tell them about the Harrogate branch. He was much disappointed that the Kissingen water had not been a greater success. It seemed that they had not made a good investment in taking that, and he thought it was due to the fact that members would not take an interest in it. He supposed nothing of that kind would succeed unless it came from a foreign land. He hoped the members would still trust their directors and secretary to carry on the business. They did not grudge trouble if their labours were appreciated. The shareholders did seem now to understand better than formerly the system on which they were trading. But they still had letters complaining of being asked for money, and regarding the directors as a firm with whom they were dealing, and not as merely the representatives of themselves. They could not carry on the business without cash payment. He had taken a particular interest in this company, because its success showed that chemists could be induced to work together shoulder to shoulder. He believed many more would join them now that they could see that there were no financial dangers. Some travellers had tried to do them an injury. He knew of one in particular—and at one time he had thought of getting up the necessary evidence for a prosecution—who had told chemists that the Association could not last. But he thought it best to let the accounts speak for themselves. As to the application of the profit, they could, of course, be very heroic and apply all of it to the reduction of the preliminary expenses, but he thought that would be hardly fair to those who had had their money in it all the time. It would be putting new shareholders on the same footing as old ones. If the report was adopted, he would like it understood that the dividend would not be paid until January 1, and then, to save expenses, they proposed in all cases where they had accounts open with their shareholders to credit the account with the amount of the dividend. He moved the adoption of the report.

Mr. URWICK seconded the motion, and said that, while the success of the company was satisfactory, he considered he had had a very good dividend all along by the extra profits he had made by selling these waters. He recommended the issue of fly-sheets recommending the waters.

Mr. NICHOLLS thought that would be a wrong principle. He printed his own advertisements on the waters, and he thought others should do the same. He also urged that rubine should be put up in syphons again, as it was when it was called "bark beer." Teetotalers were increasing, but they would not buy drinks which cost them 6d. for a single draught. Mr. Nicholls remarked on the large quantities of bottles, syphons, estimated at 2,002<sup>l</sup>. The general office expenses (480<sup>l</sup>. in London and 147<sup>l</sup>. in Harrogate) and the directors' fees (110<sup>l</sup>) he thought large when compared with the amount of profit made.

The CHAIRMAN said if any number of members wanted rubine in syphons they would only be too happy to supply them. But he reminded members that large quantities of that class of beverages were taken in champagne bottles, and he did not know of any sold in syphons. The stock of bottles, &c., was one of the great difficulties of the trade. In the summer they often had none left to fill. Their enemies, the railways, sometimes kept packages of empties waiting about for a fortnight. He did not consider the office expenses were at all high. They could not be compared with the profits. There might be no profits. Was the secretary not to be paid at all in such a case? The directors had 25<sup>l</sup>. a year each, and he did not think they were overpaid. Mr. Wilson, at Harrogate, did work for them which they could not get done for 100<sup>l</sup>. a year.

Mr. WILSON, Harrogate, gave some particulars of the Harrogate branch, which had been despised, but which he believed would compare well with the London concern. The business of the shareholders was largely increasing. He had taken 17 customers and compared their payments last year and this year. Last year they were 2,418<sup>l</sup>., this year 4,227<sup>l</sup>.

A MEMBER thought the profit ought all to be devoted towards paying off the preliminary expenses.

Mr. FITCH said the payment of a dividend would best ensure their future success by bringing them new members.

This view was generally supported, and the motion was carried.

Some further discussion ensued respecting the sale of rubine in syphons, and the chairman informed Mr. Nicholls that they would supply him or any member with the article in syphons at 4s. per dozen.

Messrs. Davenport and Goldfinch were re-elected directors, and votes of thanks were passed to the secretary and to the directors.

#### CHEMICAL SOCIETY.

Thursday, November 2.

F. A. ABEL, F.R.S., Vice-President, in the chair.

It was announced that a ballot for the election of Fellows would take place at the next meeting (Nov. 16.)

The following papers were read:—

"On Dihydroxybenzoic Acids and Iodosalicylic Acids," by Dr. A. K. Miller. The author has succeeded in preparing the sixth dihydroxybenzoic acid, five being already known. It was obtained by heating salicylic acid and iodine in alcoholic solution. Two iodosalicylic acids were formed, which yielded two distinct dihydroxybenzoic acids when heated with potash.

"On Crystalline Molecular Compounds of Naphthalene and Benzene, with Antimony Trichloride," by Watson Smith and G. W. Davis. By melting 3 parts by weight of antimony trichloride with 2 of naphthalene minute crystals were obtained  $3\text{SbCl}_3 \cdot 2\text{C}_10\text{H}_8$ ; similarly with benzene a body  $3\text{SbCl}_3 \cdot 2\text{C}_6\text{H}_6$  was prepared.

Additional evidence, by an analysis of the quinolin molecule, that this base belongs to the aromatic series of organic substances, by Watson Smith and G. W. Davis. The authors have studied the effect of exhaustive perchlorination (by heating with antimony pentachloride) on quinolin; perchlorethane, perchlorbenzine, and nitrogen were obtained.

"On Orcin and some of the other Dioxyltoluols," by R. H. C. Neville and D. A. Winther. The authors have prepared the dioxyltoluol 1, 3, 5, starting from the dinitrotoluol 1, 3, 5, and have found it to be identical in all its reactions and physical properties with orcin. They have also prepared the dioxyltoluols 1, 2, 4 and 1, 2, 5, and have investigated the preparation of the body 1, 3, 4.

"On the Varying Quantities of Malt Albumenoids extracted by Waters of different types," by E. R. Moritz and A. Hartley.

"On the Derivatives of Ethylene-chlor-bromide," by J. W. James. The author gives details as to the preparation of this body, and has studied the action of sodium sulphite upon ethylene chlorobromide, ethylene dibromide, and ethylene chlorothiocyanate; also the action of ammonia upon an aqueous solution of chlorethylsulphonic chloride.

#### THE SOCIETY OF CHEMICAL INDUSTRY.

The London section of the Society of Chemical Industry opened its winter session on the 6th inst. The President, Professor Abel, contributed a paper on "The Flashing Test for Petroleum," and Mr. Weldon, the chairman of the London section, read a paper on "A New Process for the Manufacture of Sodium Sulphide and Potassium Sulphide." On December 4 Mr. W. Ivison Macadam, of Edinburgh, will read a paper on "Boiler Incrustations and the Purification of Water for Technical Purposes." The meetings are held in the rooms of the Chemical Society, Burlington House, at 8 P.M., and will be continued monthly until June.

**SALT IN THE NORTH.**—The enormous firm of Bolckow, Vaughan & Co., of Middlesborough, have recommenced a boring in search of salt. Some years ago they made a hole 1,250 feet deep, and found salt not pure enough for their purposes. Now they intend to bore 300 feet deeper, the hole to be 28 inches in diameter, and the anticipated yield of brine much larger than that of Bell Brothers at Port Clarence. At Cowpen Bewley, near Newcastle, the salt beds are said to be 110 feet thick. Development in this direction will give the Tyne chemical industries a fillip by providing at their doors the salt they have hitherto brought from Cheshire.

## PHARMACY ACT, 1868.

## RECTIFICATION OF THE REGISTERS OF PHARMACEUTICAL CHEMISTS AND CHEMISTS AND DRUGGISTS.

SIR.—For the information of your readers, I have the pleasure to send you a list of persons whose names will be erased from the Register on December 31, unless in the meantime I am informed of their whereabouts.

Two registered letters have in each case been sent, in accordance with Section 10 of the Pharmacy Act, 1868.

Yours faithfully,

ELIAS BREMIDGE,  
Registrar.

17 Bloomsbury Square,  
London, W.C., November 9.

Those marked (\*) are Pharmaceutical Chemists.

|                          |   |                           |  |
|--------------------------|---|---------------------------|--|
| Ahrott, Joseph           | 1 Bellevue, Clevedon                                    | Currie, Alexander         | 24 Argyle Place, Edinburgh                                   |
| Abraham, William         | 16 Lawford Road, Rugby, Warwickshire                    | Dakeyne, Thomas Edward    | Windle, Cheshire   |
| Adams, Henry Gardner     | 35 Burgate Street, Canterbury                           | Davies, Charles           | Newton House, Newton St., Pennywell Rd., Bristol             |
| Alexander, William       | Strichen, Aberdeenshire                                 | Davies, Thomas            | 5 Baker Street, Abergavenny, Cardiganshire                   |
| *Andrews, William L.     | 19 The Terrace, Peckham Road, London, S.E.              | Deane, Maurice Burnstead  | High Street, Dawley, Salop                                   |
| Armstrong, Brookshank    | 71 King's Road, Chelsea, London, S.W.                   | Defriez, Richard          | 92 Packington Street, 1 <sup>st</sup> ington, London, N.     |
| Arnold, George James     | 17 Hardwick Place, Commercial Rd., Lon. E.              | Delamar, Edward Thomas    | 14 Albert Street, Leith Walk, Edinburgh                      |
| Ashmore, George Johnson  | Lindsworth, King's Heath, Birmingham                    | Dickinson, Joshua Steel   | 1 Union Street, Jarrow on Tyne                               |
| Atkinson, Edward Tenton  | 42 Kirkstall Road, Leeds                                | Dixon, William Bunting    | 2 Loxton Street, Bloomsbury, Birmingham                      |
| Attwater, Thomas C.      | 47 Kerr Street, Devonport                               | Dobridge, S. H. S.        | 180 Shoreditch, London, E.                                   |
| Attwell, Benjamin Arthur | Wincanton   | Downes, Foster Donald     | 45 Ellerslie Rd., Loftus Rd., Shepherd's Bush, London, W.    |
| *Bachelot, Pierre Eloy   | Paris   | Dowsett, Arthur           | 16 North Street, Brighton                                    |
| Baker, Arthur George     | 98 Hampstead Road, London, N.W.                         | Dockers, Henry            | Chester Street, Market Drayton, Salop                        |
| Ballinger, Arthur John   | 21 St. Alhan's St., Kensington Rd., Lon., S.E.          | Duncan, James             | 57 Castle Street, Aberdeen                                   |
| Barnes, Benjamin         | 7 Cross Street, Hatton Garden, London, E.C.             | Dunn, Edward              | 16 Newgate Street, London, E.C.                              |
| Barry, Henry             | 79 High Street East, Sunderland                         | Eastes, Benjamin Henley   | Burleigh House, Stanstead, Essex                             |
| Beezley, Thomas          | 10 High Street, Salisbury                               | Edwards, Charles Richard  | 5 West Place, Fareham, Hants                                 |
| Bell, George             | 65 Hopwood Street, Spring Bank, Hull                    | Ellison, John Clement     | 40 Brunswick Square, London, W.C.                            |
| Bendelack, Charles       | 112 High Street, Southampton                            | Evans, David Powell       | 8 Batters Park Road, London, S.W.                            |
| Berry, Robert Innes      | 65 St. Nicolas Street, Aberdeen                         | *Evans, William Henry     | 87 Westbourne St., Eaton S.1., London, S.W.                  |
| Best, Robert             | 33 Strickland Street, Hesle Road, Hull                  | Evatt, Henry Royle        | 32 Sw St., Street, Holbeck, Leeds                            |
| Batts, John Howe         | 7 Peiford Row, Limerick                                 | *Fairbairn, George        | 2 Fairy Lane, Bury New Road, Manchester                      |
| Billsborough, Thomas     | 23 London Road, Preston, Lancashire                     | Farr, Archer              | 10 Tiltotson Place, Waterloo Rd., London, S.E.               |
| Bingham, Samuel          | Eton  | Field, Alfred William     | 39 South Clerk Street, Edinburgh                             |
| Birchall, Samuel         | 39 Tennyson Place, Otley Road, Bradford                 | Field, Henry              | 133 Oxford Street, London, W.                                |
| Birrell, George          | Post Office, Highgate, London, N.                       | Finch, Henry              | 1 Keynsham Street, Cheltenham                                |
| Black, William Jones     | 21 High Street, Bangor                                  | Firness, Henry Robert     | Oughtibridge, Sheffield                                      |
| Bluett, Reginald         | Tetbury, Gloucestershire                                | *Fleetwood, Thomas        | Widnes, Lanc.  |
| Boe, James               | 43 Blackett Street, Newcastle-on-Tyne                   | Fleming, Eb. m'z          | 104 North Street, Glasgow                                    |
| Bond, Alfred             | 13 Pelham Rd., High Rd., Tottenham, Lon., N.            | Fleming, John             | 27 Howard Street, Glasgow                                    |
| Boor, Jonathan           | 38 East Street, Brighton                                | Forsyth, James            | 53 Regent Quay, Aberdeen                                     |
| Booth, Jonathan          | 6 Cavendish Ter., West Hill Pk., Halifax, Yorks         | Foster, George Edward     | Newbury, Berks   |
| Bouton, Joseph Oakwell   | Albert House, Claremont Street, Bristol                 | Foster, William           | 149 Kennington Cross, London, S.E.                           |
| Branch, George           | 26 St. Peter's Street, Mile End, London, E.             | Fox, John                 | 1 Sprin Street, Sussex Gardens, London, W.                   |
| Branson, Alice           | 7 Black Lane, Bradford, Yorks                           | Fox, William              | 51 Noble Street, Leicester                                   |
| Bretton, H. Wolstenholme | 29 Losby Lane, Leicester                                | Frank, John Mead          | 30 Castle Street, Newcastle-on-Tyne                          |
| Brierley, John           | Barrow-in-Furness                                       | Freer, Thomas             | 30 Boners Lane, Leicester                                    |
| Bristow, Robert Anthony  | 47 Eastlake Road, Brixton, London, S.W.                 | French, Mary Ann          | 53 St. Peter's Street, Ilington, London, N.                  |
| Britten, John            | 272 Albany Road, Camberwell, London, S.E.               | Funnel, Edward            | 22 Devonshire Place, Brighton                                |
| Brown, Benjamin          | 6 Russell Street, Hull                                  | Funnel, William Henry     | 22 Devonshire Place, Brighton                                |
| *Brown, Wm. Braithwaite  | Kingworth-Beauchamp, Leicestershire                     | Gaze, George              | Luton, Beds  |
| Buchanan, Robert         | 5 Wellington Arcade, Glasgow                            | Garside, Thomas           | 10 Cross Street, Southport                                   |
| Burt, James              | Harrogate   | Gell, George              | 6 Woodhouse Place, Leeds                                     |
| Burton, Shadrach         | 10a High Cross Street, Leicester                        | George, Eb. v Vale        | Hillside, Eb. v Vale, Monmouthshire                          |
| Burton, William          | 37 High Street, Redcar, Yorks                           | Gethen, William           | 57 Linell Rovl., Vestry Road, Camberwell, London, S.E.       |
| *Buzzard, Thomas Hardy   | Market Place, Leicester                                 | *Gibbs, James             | 98 Elsey Road, Lavender Hill, Surrey                         |
| Campbell, James          | 127 Main Street, Anderston, Glasgow                     | Giddy, Anne               | 1 King Street, Twickenham, Middlesex                         |
| Campbell, John           | 4 Portland Street, Glasgow                              | Gilders, George Pollard   | 6 High Street, Maidstone                                     |
| Cant, Heamington         | 8 Coborn Street, Bow Road, London, E.                   | Gill, Sutton Dadley       | Market Place, Melton Mowbray                                 |
| Capner, William Morgan   | Highgate, London, N.                                    | Gittings, Alfred          | May a Vale, London, W.                                       |
| Carter, Frederick Lewis  | Canterbury  | Glasier, Samuel           | 21 Red Lion Street, Holborn, London, W.C.                    |
| Barter, William Robinson | 13 Renfrew Rl., Lower Kennington Ln., Lon.              | Godlard, Benjamin         | 23 Sussex Rovl., Stockport, Cheshire                         |
| Caswell, Edmund          | Avenys Road, Leamington, Warwickshire                   | Goodale, John Wallett     | 12 Cobden St., Humberstone Rd., Leicester                    |
| Chalmers, William        | 12 Glassford Street, Glasgow                            | Goodman, Godfrey          | 47 Jasmine Grove, Anerley, Surrey                            |
| Chantry, Elizabeth       | Ains Street, Goole, Yorks                               | Goodwin, John             | Muntz Street, Smal Heath, Birmingham                         |
| Chirm, John              | 23 Guildford Terrace, Guildford St., B'ham.             | Goodyer, Frederick Richd. | Sherwood Rise, Nottingham                                    |
| Christian, George        | Godalming, Surrey                                       | Grant, Robert             | Aboynie, N.B.  |
| Churchman, James         | 123 Brixton Road, London, S.W.                          | Gry, A' Alexander         | Priory Place, Bonnington, Leith, N.B.                        |
| Clarke, Thomas           | 36 Conway Street, Birkenhead, Cheshire                  | Greenough, Isaac          | 1 Diamond Row, Stepney Green, London, E.                     |
| Clayton, George Pearson  | Rose Cottage, Hall Bower, Huddersfield                  | Griffiths, George Henry   | 60 Damgate, Bolt, Lancs.                                     |
| *Clayton, Henry          | 5 Amersham Park Terrace, Amersham Road, New Cross, Kent | Griffiths, Joseph         | 8 Church Street, Wrexham                                     |
| Clode, Charles           | 5 Lordship Terrace, Tottenham, Middlesex                | Hambridge, Thomas         | West Street, Reading   |
| Cocking, Thomas          | Holbeach  | Hancock, Edward           | 9 East India Dock Road, Limehouse, London                    |
| *Coleman, Alfred         | 13 St. Mary-at-Hill, London, E.C.                       | Hanson, Philip Freeman    | Chagford, near Exeter, Devon                                 |
| Conway, John William     | 23 Regent Street, Leamington                            | Harding, George           | High Street, Farnham, Kent                                   |
| Cook, Charles            | 120 Alston Street, Leamington, Birmingham               | Harries, Thomas           | 92 Page Street, Swans  |
| Coomber, Sarah           | 85 Hollydale Rd., Queen's Rd., Peckham, London, S.E.    | Harris, Waddel v C.       | 170 Westgate, Bradford, Yorks                                |
| Cooper, James Newberry   | Woodville House, White Ladies Road, Bristol             | Hawthorne, Chas. Oliver   | 19 Chobham Rd., Stratford, London, E.                        |
| Cope, Charles Ball       | 96 Rock Street, Sheffield                               | Hayward, Charles William  | 54 Garstree Street, Manchester                               |
| Corfe, Henry             | 4 Jewry Street, Winchester                              | Healy, Patrick J.         | 25 Finsbury Street, Victoria Park, London, E.                |
| Cork, Charles Sawyer     | Hadleigh, Suffolk                                       | Heaps, William            | 16 Linus Street, Preston, Lancs.                             |
| Court, Alfred            | 35 Bull Street, Birmingham                              | Heaton, George            | 198 Manchester Rd., East, Little Hulton, near Bolton, Lancs. |
| Cowper, David Burgess    | 127 Main Street, Anderston, Glasgow                     | Henderson, John           | 125 Galloway Street, Maryhill, Glasgow                       |
| Crane, John              | 2 Louis Street, New Leeds, Yorks                        | Heslop, John              | South Shields  |
| Crane, Walter            | 91 Lower Marsh, Lambeth, London, S.E.                   | Higgins, Joseph Slatterie | Carene Cottage, St. John's, Fulham, S.W.                     |
| Crawley, Henry           | 19 Phoenix Street, London, S.E.                         | Hodgson, James            | 8 Lowfield Street, Dartford, K-t                             |
| Crook, Edward            | 41 Canterbury Road, Brixton, London, S.W.               | Hogg, Walter              | 3 Nesbitt St., Westmoreland Rd., Newcastle-on-Tyne           |
| Cooke, Charles Gibbons   | 82 Barkham Terrace, Lambeth, London, S.E.               | Holland, Henry            | 97 Higa Lane, Sparkbrook, Birmingham                         |
| Cross, John              | 12 Belle Vue Road, Upper Tooting, Surrey                | Hornier, James William    | 53 Banyard Ter., Banyard Rd., Bermondsey, London, S.E.       |
| Cross, Thomas            | 448 Duke Street, Glasgow                                | Horsfall, Henry           | 31 Vicar Lane, Leeds   |
| Cunningham, William      | 35 Elizabeth Street, Bradford, Yorks                    | Horsfall, Thomas          | Burley Road, Leeds   |

|                                   |   |
|-----------------------------------|---|
| Jessop, Josiah Benjamin ..        | 12 Darlington Street, Wolverhampton                     |
| Johnson, Edward .....             | 22 Pimblett Street, Cheetham, Manchester                |
| Johnson, Edward .....             | 48 Stamford Street, Stalybridge                         |
| Johnston, Robert .....            | 212 New City Road, Glasgow                              |
| Jones, Henry Wm. Burnell .....    | 64 High Street, Newport, Mon.                           |
| Joy, Josiah Ruddick .....         | 1 St. Joseph Street, Hunslet Road, Leeds                |
| Judd, Riehard .....               | 110 Suffolk Street, Birmingham                          |
| Keith, Alexander Reid .....       | 15 Prince's Square, Kennington, London, S.E.            |
| Kirby, John Henry .....           | 124 Wheeler Street, Birmingham                          |
| Kirkman, Thomas Charles .....     | 20 Ellerby Lane, Bank, Leeds                            |
| Knight, John .....                | 5 Chapel Street, Somers Town, London, N.W.              |
| Lancheniek, Emma .....            | High Street, Marlborough, Wilts                         |
| Langford, William .....           | 119 London Road, Lynn, Norfolk                          |
| Lanridge, T. Benjamin .....       | Maud Villa, Colworth Rd., Leytonstone, Essex            |
| Lavender, Joseph .....            | Frog Island, Leicester                                  |
| Lemmon, Charles .....             | 12 South Street, Worbting                               |
| Leppard, James .....              | Guildford Street, Chertsey, Surrey                      |
| Levie, Alexander Mair .....       | 73 Wales Street, Aherden, N.B.                          |
| Lewis, Rebecca .....              | Ebbw Vale, Mon.   |
| Liekkis, Charles .....            | 55 Liddell Street, Hull                                 |
| Little, Henry .....               | 107 Broad Street, Reiding                               |
| Lodge, Arthur William .....       | London Hospital, Whitechapel, London, E.                |
| Lomas, Charles Benjamin .....     | 25 King Street, Leicester                               |
| Longfield, Joshua .....           | 17 Whitehouse Road, Sunderland                          |
| Lyndon, Richard .....             | 178 Mile End Road, London, E.                           |
| Lynch, Edwin Bould .....          | 23 Cheetham Street, Rochdale                            |
| Lynch, Thomas Bold .....          | 9 London Road, Preston, Lancs.                          |
| McCaheyne, James .....            | 45 High Street, Dumfries, N.B.                          |
| Mc onaeb, John .....              | Hagley Street, Halesowen, Birmingham                    |
| McCluloch, Charles .....          | 6 Cross Lane, St. Mary-at-Hill, London, E.C.            |
| Macfarlane, Peter .....           | 191 Fulham Roa, London, S.W.                            |
| McGown, John Porter .....         | 11 Caledonia Street, Paisley, N.B.                      |
| McGruer, John .....               | 47 South Kinnung Place, Paisley Rd., Glasgow            |
| McKenzie, Hector .....            | 116 Castle Street, Moatrose, N.B.                       |
| McKinnell, T. Maxwell .....       | 16 Brougham Place, Edinburgh                            |
| Macneil, Archibald .....          | 324 Caledonian Road, London, N.                         |
| McOwan, John Townsend .....       | 1 Powlett Place, Harmond St., Camden Town, London, N.W. |
| Mann, John .....                  | 68 St. Ann's Road, Nottingham                           |
| Marlov, Fredk. William .....      | 11 High St., Battersby Sq., Battersby, Lon., S.W.       |
| Marnon, William .....             | Oxford Street, Oaken Gates, Slop                        |
| Marsden, John .....               | 17 Barony Street, Edinburgh                             |
| Marsh, Thomas .....               | Elm Cottage, Slindon, near Arundel, Sussex              |
| Martin, Michael .....             | 142 Mill Street, Liverpool                              |
| Melton, Frederick .....           | 22 Worship Street, London, E.C.                         |
| Merritt, Joseph Hughes .....      | 48 East Street, Brighton                                |
| Muller, William Henry .....       | 62 Bean Street, Hull                                    |
| Milnington, Edward .....          | 162 Bermondsey Street, London, S.E.                     |
| Mills, John Perry .....           | The Cross, Exmouth, Devon                               |
| Mills, Thomas William .....       | 8 Lowfield Street, Dartford, Kent                       |
| Minne, James .....                | Forrest Road, Edinburgh                                 |
| Morgan, John .....                | 13 Methley Street, Kennington, London, S.E.             |
| Morgan, Rienard Thomas .....      | Brook House Dispensary, Cricklade, Wilts                |
| Morris, Alfred .....              | 32 Torriano Avenue, Camden Town, London                 |
| Morris, Edwin .....               | 1 Spring Street, Hyde Park, London, W.                  |
| Morris, John .....                | Duke Street, Wellington, Salop                          |
| Morris, Thomas Edwards .....      | 15 Longfellow Street, Lotte Lane, Liverpool             |
| Morrison, William Hay .....       | 65 St. Nicolas Street, Aberdeen                         |
| Motherwell, Mary .....            | 20 Orchard Street, Paisley, N.B.                        |
| Mureb, Edward .....               | 18 Broad Street, South Molton, Devon                    |
| Muskett, Edwin Burrell .....      | Holt  |
| Needham, Jane .....               | 60 Church Gate, Leicester                               |
| Newhall, John William .....       | Kirkheaton, near Huddersfield                           |
| Newman, Samuel Charles .....      | 8 East Street, Bedminster, Bristol                      |
| Nicolson, Edward .....            | Lindley, near Huddersfield                              |
| Nisbet, William Johnstone .....   | Curries Cottage, Spring Gardens, Edinburgh              |
| Noakes, Riehard .....             | 64 Geneva Road, Brixton, London, S.W.                   |
| Noble, Alexander .....            | 62 Elderslie Street, Glasgow                            |
| Noel, Ferdinand .....             | Paris   |
| Oldham, Gervase .....             | 17 Chestergate, Macclesfield                            |
| *Oliver, William Hurdon .....     | 113 Holborn, London, E.C.                               |
| Osborn, William Henry .....       | 124 High Street, Tewkesbury                             |
| Osbourne, Nicholas Twigg .....    | 25 Trinity Street, Spring Bank, Hull                    |
| Owen, Charles .....               | Portl and Pl., Derby Rd., Bootle, near L'pool           |
| Owen, Richard Lewis .....         | Turf Square, Carnarvon                                  |
| Padley, William .....             | 5 Norfolk Street, Lynn                                  |
| Parker, Frederick Carr .....      | Lady Bank Works, Dundee                                 |
| Parr, Frederick Richard .....     | Silverdale, Staffordshire                               |
| Patman, George .....              | White Lion Street, Norwich                              |
| Pattison, Frederick .....         | 38 St. Paul's Read, South Tranmere, Cheshire            |
| Peat, William Henry .....         | The Crescent, Birmingham                                |
| Pemberton, William .....          | 51 Tithebarn Street, Preston, Lancs                     |
| Penketh, John .....               | 197 Westminster Road, Kirkdale, Liverpool               |
| Phillips, Charles .....           | 34 Mon gomery St., Sparkbrook, Birmingham               |
| Pickering, Samuel Whaley .....    | The Lache, near Chester                                 |
| Pidgeon, Joshua David .....       | Hatherleigh, Devon                                      |
| *Pisani, Orestes Victoriano ..... | 23 Ravensden Street, Kennington, London, S.E.           |
| *Place, William Thomas .....      | 17 Brunswick Terrace, Aire Street, L.edis               |
| Poate, Stephen .....              | 1 Charles Street, Landport, Hants                       |
| Pollard, Jeremiah .....           | 43 Winchester Street, London, S.W.                      |
| Pollard, John Frederick .....     | North Street, Milverton, Somerset                       |
| Poole, John .....                 | 20 Garratt Street, Manchester                           |
| Powell, Thomas Quarton .....      | 32 Cordingley St., Otley Rd., Bradford, Yorks           |
| Pye, John .....                   | Duke Street, Dartmoor, Devon                            |
| Raynes, Sydney Herhert .....      | 10 Woolosome Road, Highgate, London, N.                 |
| Reed, Johnson .....               | 47 Diana Street, Newcastle-on-Tyne                      |
| Reed, William .....               | 47 Diana Street, Newcastle-on-Tyne                      |
| Reeke, Arthur .....               | Loanbank, Midlothian                                    |
| Reeve, James .....                | Bell Hotel, Ely, Cambs.                                 |
| Rennison, James .....             | 119 High Street, Sunderland                             |
| Revell, John .....                | 11 Chilton Road, Maida Vale, London, W.                 |
| Richards, Frederick J. .....      | 60 Albion Road, Dalston, London, E.                     |
| Richards, Thomas .....            | 18 Saville Place, Lambeth Rd., London, S.E.             |
| Richardson, Joseph H. .....       | 3 Arundel Terrace, Cork                                 |
| Ring, Edward James .....          | 324 Caledonian Road, London, N.                         |
| Roberts, Thomas .....             | 29 Recroy Rd., Stoke Newington, London, N.              |
| Roberts, Thomas Edwards .....     | 69 Beacon's Hill, Denbigh                               |
| Robinson, George .....            | 27 Arlington Street, Salford, Manchester                |
| Robinson, Herbert .....           | 52 Royal York Crescent, Clifton, Bristol                |
| Robinson, John .....              | 15 Wellington Terrace, Norwood, Beverley                |
| Robinson, Thomas .....            | Easington, Yorks  |
| Roper, George Arthur .....        | 4 Summerfield Terrace, Newham, Cambs.                   |
| Routledge, George .....           | 362 Rochdale Road, Manchester                           |
| Salter, Sophia .....              | Eltham, Kent  |
| Sargeant, Samuel .....            | 61 Roden Street, Holloway, London, N.                   |
| Shannon, John .....               | 168 Gallowgate, Glasgow                                 |
| Scooper, David Brown .....        | 156 New City Road, Glasgow                              |
| Sheriff, Thomas Jackson .....     | 149 Chapel Street, Salford, Manchester                  |
| Sibbering, George .....           | Middlesex Hospital, Charles St., London, W.             |
| Sim, Robert .....                 | 58 Aughton Street, Everton, Liverpool                   |
| Simnett, Thomas .....             | 52 Royal York Crescent, Clifton, Bristol                |
| Simpson, Alexander .....          | 31 Ronald Street, Glasgow                               |
| Simpson, John .....               | 80 Patrick Street, Cork                                 |
| Simpson, William .....            | Market Place, Bedale, Yorks                             |
| Slater, Samuel .....              | Headingley, Yorks                                       |
| Smith, Anthony .....              | 11 Upper Well Street, Hill Cross, Coventry              |
| Smith, Charles Albert .....       | 42 Canal Street, Derby                                  |
| Smith, Charles Henry .....        | 4 Newby Terrace, Bootham Stray, York                    |
| Smith, P. reival Henry .....      | 80 Argyle Street, Birkenhead, Cheshire                  |
| Smith, William Lyall .....        | Great Hautbois, Cottishall, Norfolk                     |
| Snap, John .....                  | Swinton, Lancashire                                     |
| Soppet, Robert .....              | 5 Allerton Ter., E. Cotham, near Redcar, Yorks          |
| Sotaan, Paul Hellesen .....       | 2 Garford Street, Limehouse, London, E.                 |
| Spaidey, William Richard .....    | Lea Bridge Road, Leyton, Essex                          |
| Spicer, Charles .....             | Ferndale Lodge, Enderdale Roal, Lewis-ham, Kent         |
| Spicer, Thomas .....              | Finedon, Northamptonshire                               |
| Spreeley, George .....            | 58 Long Row, Nottingham                                 |
| Spurgin, Fre-erick William .....  | Hounslow, Middlesex                                     |
| Stanley, Henry .....              | Fri Street, Edmonton, Middlesex                         |
| Stead, Samuel .....               | Hanover Place, Leeds                                    |
| Stenhous, Robert .....            | 1 Maita Terrace, Edinburgh                              |
| Stevens, Stephen Nobbs .....      | Bride Street, Downham Market                            |
| Stephenson, Robert A. W. ....     | 44 Taylor Street, Liverpool                             |
| Stewart, William Henty .....      | 11 Applefor t Road, Upper Westhorne Park, London, W.    |
| Stocks, Alfred .....              | Halifax, Yorks  |
| Stonehouse, William .....         | 2 Bridge Street, Sonth Stoekton                         |
| Story, William .....              | Works-p, Notts  |
| Stotcliffe, Radcliffe .....       | 113 Crown Buildings, Boothtown, Halifax, Yorks          |
| Swallow, James Edward .....       | Albert Cottage, Kensal New Town, L'don, W.              |
| Tamplin, George William .....     | Dundup Haddington ....                                  |
| Tanner, Benjamin .....            | University College, Gower Street, L'don, W.C.           |
| *Tanner, Herbert .....            | 2 Hargrave Buildings, Chapel St., Liverpool             |
| *Tiplin, Frederick .....          | 123 Oxford Street, London, W.                           |
| Taylor, Hannab .....              | Bristol   |
| Taylor, Hannah .....              | 17 Saville Street, Manchester                           |
| Taylor, Sydney .....              | Old Charlton, Kent                                      |
| Tempier, Alfred .....             | 3 Denmark Street, Bristol                               |
| Thomas, Richard .....             | Crosswall, Dover  |
| Thomson, Frederick Charles .....  | Victoria Place, Ea thourne                              |
| Thorpe, John .....                | 79 Roehdale Road, Harpurhey, Manchester                 |
| Tomlinson, William Fredk. ....    | Blethine Square, Leeds                                  |
| Toy, George Bentley .....         | 153 Summer Lane, Birmingham                             |
| Traverse, Thomas .....            | 53 St. Peter's Street, Islington, N.                    |
| Turner, Robert John .....         | 185 Church Road, Essex Road, London, N.                 |
| Twizell, Robert .....             | South Hylton, Durban                                    |
| Vineer, Frank .....               | 71 East Street, Brighton                                |
| Vine, Richard .....               | 112 Westbourne Park Road, London, W.                    |
| Ward, Thomas Rowland .....        | 3 Ashley Lane, Long Milgate, Manchester                 |
| Warner, Riehard .....             | 20 Charterhouse Square, London, E.C.                    |
| Warren, Frederick .....           | 52 Preston Street, Brighton                             |
| Waterhead, David .....            | 132 Ladbrooke Grove Rd., Notting Hill, Lou.             |
| Waterworth, William .....         | 77 Cambridge Street, Sheffield                          |
| Watson, Thomas Harrison .....     | 30 Osborne Road, The Brook, Liverpool                   |
| Watts, John Taylor .....          | 69 Hall Street, Stockport, Cheshire                     |
| Watts, Walter .....               | 15 High Street, Kingtou, Herefordshire                  |
| Wedge, Theophilus Aston .....     | 80 Victoria Street, Wolverhampton                       |
| Weiller, James William .....      | Nice  |
| Wells, Joshua Holroyd .....       | 6 Church Row, Kirkgate, Leeds                           |
| Wheeler, Fredk. Ebenezer .....    | 8 Victoria Street, Ryde, Isle of Wight                  |
| Whinfield, William Henry .....    | 14 Cantlowes Rd., Camden Town, London, N.W.             |
| White, George G. ....             | 139 Camden Road, London, N.W.                           |
| *Whitfield, Henry .....           | 4 High Street, Worcester                                |
| Whitfield, Henry Spencer .....    | 43 Boling Street, Bradford, Yorks                       |
| Whitworth, Frank .....            | 7 Holloway Head, Birmingham                             |
| Wightman, James .....             | 3 Weston Street, Preston                                |
| Wilding, William .....            | Liseard Park, Liseard, near Birkenhead                  |
| Williams, David .....             | Llanfair Talhaarn, Denbighshire                         |
| Williams, Evan David .....        | 19 Goodge Street, London, W.                            |
| William Robert .....              | Tonge, Middleton, Lancs.                                |
| Wilson, Alexander Rohb .....      | 48 High Street, Leven, Fifeshire                        |
| Wilson, Charles Tyler .....       | 14 Cambridge Terrace, Islington, London, N.             |
| Wilson, James .....               | 212 Evelyn Street, Deptford, Kent                       |
| *Wilson, John Henry .....         | Scarborough   |
| Wood, Alfred Charles .....        | 366 Bristol Road, Birmingham                            |
| Wood, Edmund .....                | 35 Parkstone Rd., Peckham Rye, London, S.E.             |
| Wood, William Turton .....        | 7 Blayd's Court, Hunslet Lane, Leeds                    |
| Woodhouse, William .....          | Amblsde, Westmoreland                                   |
| Wright, Arthur .....              | Walter Street, Nottingham                               |
| Wright, Edward .....              | 21 Durham Street, Middlesbrough-on-Tees                 |
| Wright, James .....               | 246 Manchester Rd., Cubitt Town, London, E.             |
| Wright, Watkin Valentine .....    | 21 King Street, Wrexham                                 |
| Yewen, Caleh Henry James .....    | 1 Clubb's Ter., Odessa Rd., Forest Gate, Essex          |
| Young, James John .....           | 22 Litchfield Rd., Old Ford, Bow, London, E.            |

IT has been announced, by circular, that the business of the Kepler Malt Extract Company is now conducted entirely by Messrs. Burroughs, Wellcome & Co.

## THE DUTIES ON MEDICINES, &amp;c., IN VICTORIA.

A SPECIAL REPORT of the evidence given before the Victorian Tariff Commission has been taken for the Australian Supplement to THE CHEMIST AND DRUGGIST, and an advance proof has been forwarded to us, which is of sufficient interest to the wholesale trade here to make the publication desirable.

The Royal Commission on the tariff was appointed in September, 1881, "to inquire into and report upon the incidence and working of the present customs tariff of this colony, especially with regard to the continued inclusion therein of items which, while neither yielding any considerable amount of revenue nor adequately protecting any Victorian industry, at the same time seriously hamper the operations of trade, and further to devise the best means of affording relief by discontinuing such items in the tariff, and, if necessary, adding others in lieu thereof." The Commission, consisting of twenty-one members, includes the names of Messrs. Joseph Bosisto, M.L.A., and F. S. Grimwade, president of the Chamber of Commerce. Both these gentlemen are members of the drug trade, and their presence on the Commission must necessarily prove of great advantage when any matters necessitating technical experience and knowledge are under consideration.

The Commission, we understand, is just about half-way through its arduous task, and it may, therefore, be accepted as a foregone conclusion that another year at least must elapse before the report embodying a new tariff can be laid before the country. The avowed object of the present tariff is to afford the maximum of protection short of prohibition, and to establish industries, one of the fundamental principles being the free admission of everything in the shape of raw material required by local manufacturers. The investigations of the Commission are conducted in accordance with that principle; but considerable diversity of opinion has been found to exist with reference to the free admission of many articles which, while forming the raw materials of one industry often represent the manufactures of another. For the purpose of preserving some sort of method in the evidence taken, the existing tariff has been divided into sections; and that embracing the articles in which the members of the drug and chemical trade are particularly interested has only recently been considered.

At a sitting of the Commission held on August 16, at which Messrs. James Mirams (chairman), Joseph Bosisto, W. M. Cook, John McIntyre, W. F. Walker (M.L.A.'s), Messrs. F. S. Grimwade and John Andrew, and the Hon. J. Lorimer, M.L.C., were present, the following letter from the honorary secretary of the Pharmaceutical Society of Victoria was read:—

Str,—I beg to inform you that at a meeting of the society held on July 7 last the following gentlemen were nominated to be examined before the Royal Commission on the tariff:—Mr. William Bowen and Mr. J. T. Thomas, Melbourne; Mr. C. A. Aitkin, Hotham; Mr. W. J. Wallworth, Emerald Hill; Mr. J. C. Jones, Richmond.

Your obedient servant,  
HARRY SHILLINGLAW.

Before the above-named delegates were examined, Messrs. J. W. Lindt, C. W. Foster, and Charles Nettleton, on behalf of the Victorian photographic profession, asked for a remission of the existing duty of sixpence per ounce on nitrate of silver, and also strongly opposed an application made by a local firm for a duty to be placed on photographic dry plates. It was asserted that the duty on nitrate of silver was levied solely in the interests of one manufacturer at St. Kilda, and had the effect of unduly enhancing the price of that article to Victorian photographers, who regarded it as a portion of their raw material.

The Chairman mentioned that the manufacturer of nitrate of silver alluded to had sent in a written statement to the effect that the present tariff in no way benefited his industry, and it was therefore to be assumed that he would raise no objection to the abolition of duty on that article.

The CHAIRMAN then invited the delegates from the Pharmaceutical Society to give their evidence. The Chairman conducted the examination in chief.

Mr. WILLIAM BOWEN deposed: I am a pharmaceutical chemist, and have carried on business in Collins Street for

many years. As president of the Pharmaceutical Society, I appear to-day before the Commission to give expression to the views generally held by the trade on the subject of the existing tariff. I believe the trade recognises the fact that while protection is the policy of the colony any attempt on our part to disturb it would be injudicious; but we find ourselves greatly hampered by the operations of the tariff as at present formulated.

The CHAIRMAN: Perhaps it might facilitate the proceedings if you will take up the tariff (handing witness a copy), and express the views of the trade on each item on which any alteration is desired.

WITNESS: Very well. We will take, as the first, medicine bottles. They were formerly taxed at the rate of 20 per cent. *ad valorem*, but the duty is now altered to a measurement duty, which on an average amounts to about the same. But they do not appear to be successfully made here, as I have not seen any of the colonial article lately, and may further state that I have never seen any equal to those classed as second quality imported. The lowest price for 8-oz. colonial-made bottles, quoted to me, is 19s. per gross, while superior, but known as second quality, can be imported for 12s. per gross, the best quality costing about 14s. per gross. I would not complain of the duty if the colonial article could be produced satisfactorily and of good quality; but any that I have seen were not of a good description—in fact, I have not been offered any for two or three years past.

The CHAIRMAN: You should tell that to some of our local bottle-makers.

Mr. GRIMWADE: When your statement appears in tomorrow's papers you will have half-a-dozen travellers at you for orders.

WITNESS: The next item in which the trade is interested is carbolic acid, which at present is taxed at 6d. per gallon, and pure, 6d. per lb. Nothing worthy the name of carbolic acid is now made in the colony; and as it is largely used for disinfecting purposes by the poorer classes, as well as the more wealthy, I think the duty should be removed, especially as another disinfectant—"chloride of lime"—is admitted free. I am not aware that any is made in the colony. Pure carbolic acid, which is used principally for dressing wounds, should be classed with drugs, and admitted free. There is a trifling duty of 2d. per lb. on oxalic acid, and the imports of that article only yielded 95*l.* to the revenue last year. It is used for bleaching purposes, and as there is none being manufactured here it should be admitted free. The duty of 3d. per lb. on picric acid last year only yielded 6*l.* to the revenue, and that might also be swept away. Aloes should also be admitted free, as they are not produced here, and only 1*l.* was raised last year from that source. It is such small items that are useless for protective or revenue purposes, but which cause unnecessary trouble and annoyance. Liquid ammonia is made in Victoria, and I have no desire, therefore, to see any alteration of the existing duty. I do not think carbamate of ammonia is made here.

Mr. GRIMWADE: We have made tons of it.

WITNESS continued: Then there are grains of paradise, or guinea grains, on which a duty is levied.

Mr. GRIMWADE: The duty on that article, I may state, was imposed by the Hon. Peter Lalor at my request, in order that the Customs returns might serve as a registration of the quantities imported and a check on the brewing trade.

WITNESS continued: Gelatine, which is also dutiable, is an article of food; but I do not wish to interfere with the existing duty, and it may therefore remain. The duty on grains of paradise may also remain for registration purposes. With reference to the duty of 20s. per lb. on opium, "including all goods, wares, and merchandise mixed or saturated with opium, or with any preparation or solution thereof, or steeped therein," I think some amendment is desirable. Any preparation containing the smallest proportion of opium is taxed to the full extent of the pure drug itself. The pure opium pays 20s. per lb.; but a pound of spirits of wine, containing the smallest perceptible quantity of opium, has also to pay 20s. This, to my mind, is a very inequitable arrangement. There should be a sliding scale. I would not, however, make any difference in the existing rate of 20s. per lb. on pure opium; anything containing over 50 per cent. might be charged the full amount. With reference to the other lines in the tariff, I think that iodide of

potassium and bromide of potassium, as they are not made here, should be admitted free. Strychnine, which is used for the destruction of native dogs, hawks, rats, and other pests, is at present subject to a duty of 1s. per oz. Phosphorus, another pest exterminator, is free, and strychnine should be free likewise. Castor and cod-liver oil in bottles are both largely used by the poorer classes, and might be added to the free list. Chlorodyne, in the composition of which opium largely enters, should be included in the list of opium preparations. Passing over soda crystals, stearine, &c., in which our trade are not much interested, I come to patent medicines. In the existing tariff they are specified as follows:—"Medicines, patent, or called patent, not containing spirits, being medicinal preparations or compositions recommended to the public as proprietary medicines, or prepared according to some private formula or secret art, as remedies or specifics for any disease or diseases or afflictions whatever affecting the human or animal body, or being subject to a stamp duty in the country from whence they are exported—25 per cent." These medicines are largely used by the poorer classes, and the duty presses very heavily on them. I would suggest that the duty be reduced to 10 per cent, all round, but that a registration or licence fee of 2L 2s. should be imposed on all persons selling them. The country is flooded with these patent medicines, as any rubbish, if well advertised, will sell. They naturally interfere to a considerable extent with my ordinary business; but as I recognise the fact that they must come into the colony, I am unselfish in asking for a reduction of the duty. The licence-fee, if imposed, would be beneficial, as at present many dangerous preparations, including chlorodyne, can be purchased at almost any grocer's shop. Some such restriction should therefore be imposed. I do not think, gentlemen, I have anything further to add on behalf of the trade.

Messrs. Atkin, Thomas, and Walworth expressed their entire concurrence with all that Mr. Bowen had said.

At a subsequent meeting of the Commission, Mr. Henry Thomas Tompsett, of Messrs. Rocke, Tompsett & Co., wholesale druggists, testified that the existing tariff militated seriously against his business, more particularly with reference to intercolonial trade. On medicated or perfumed spirits no drawback was allowed; and on such imported preparations as Bristol's and Ayer's sarsaparilla, Powell's balsam, &c., the duty pressed very heavily.

The CHAIRMAN suggested that witness's firm might obtain relief by applying to the Customs Department for permission to avail themselves of the provisions of the Drawbacks Act, framed to meet such cases.

Witness mentioned that the opening of packages in order to supply special orders from the other colonies had often to be performed in a hurry, and the trouble and inconvenience of arranging for the attendance of officers, &c., caused delay, so that drawback was often unclaimed. The opium duty was also objectionable in its present form, and he agreed with Mr. Bowen's evidence on that subject. He also favoured the abolition of the duty on medicine bottles; and would go further than Mr. Bowen with reference to patent medicines, the duties on which should be removed altogether. The proposal of that gentleman to impose a licence fee on their sale was, in his opinion, unfair, unless all chemists and druggists were exempt from its payment. They had to undergo a long and careful training to fit them for their profession, and the license fee would press with undue severity on them. He would not, however, object to the fee if imposed on grocers and other outside vendors. The charge of 6d. per dozen on bottles of the smallest size was a particularly heavy tax on medicines, such as painkiller and other preparations, put up in 2-oz. bottles. In place of the spirit duty he would suggest the substitution of *ad valorem* rates, which would undoubtedly prove fairer. The general feeling of the trade was that the duty on patent medicines should be abolished.

In reply to Mr. W. F. Walker, witness stated that prior to the imposition of duties on patent medicines his firm had an extensive trade with the other colonies, but it had since suffered materially, and they now contemplated the establishment of branches in other intercolonial cities. Any duties imposed on patent medicines or other articles which were not produced here necessarily fell on the consumer.

Witness further stated, in reply to the Hon. James Lori-

mer, that his firm desired no protection whatever. He was in favour of the abolition of all the duties mentioned by Mr. Bowen in the course of his evidence. Acetic acid, which was largely used for pickling purposes, was not produced here, and certainly ought to be admitted free, as at present the duty thereon was simply a tax on colonial industries. The cost of acetic acid, with duty and other charges, was 100 per cent. above the English price.

Mr. TUCKER, M.L.A., asked witness whether it was not true that most of the so-called patent medicines were bogus mixtures and great frauds.

Witness replied in the negative, and said that the composition of the patent medicines was well known, and there was nothing fraudulent about them. His firm received drawback on shipments to other colonies to the extent of 16 $\frac{1}{3}$  per cent., but they had to pay the time of the drawbacks officer, besides undergoing the inconvenience of unpacking, &c. The money for the duties undoubtedly came out of the pockets of the consumers, but if the taxes were merely nominal they might be borne equally by the wholesale dealers and retailers.

Mr. JOSIAH HEMMENS, of the firm of Hemmens, Laws & Co., wholesale druggists, carrying on business in Melbourne, also gave evidence in corroboration of testimony given by Mr. Tompsett.

The inquiry then closed.

#### PHARMACY IN AUSTRALIA.

(FROM OUR OWN CORRESPONDENT.)

MELBOURNE, VICTORIA, Sept. 11.

SINCE my last letter to you, the Dental Bill, of which I made mention, has afforded considerable discussion both in the daily papers and amongst the chemists.

The framers of the Bill entirely ignored chemists, and it was not until they found that their Bill would not pass Parliament that any overtures were made to amend the measure. The chemists believe that it was the intention of the framers of the Dental Registration Act to interfere with the dentistry at present performed by chemists. Mr. Pressey, the honorary secretary of the Dental Reform Association, denies this, and in a letter in the *Argus* says:—"The object of the Bill is to secure 'the name and title of dentist' to those members of the profession who by proper apprenticeship, study, examination, and so forth, can lawfully establish their right to assume it; but it in no way interferes with chemists practising dentistry if they feel so disposed. There is no objection, as far as this Bill is concerned, to any man extracting teeth, stopping teeth, or making artificial teeth; but there is a strong objection to his leading the public to suppose (by the assumption of the title of 'dentist') that they are placing themselves in qualified hands." In opposition to Mr. Pressey, it is stated that a large number of those persons who are desirous of securing the legal "name and title of dentist" have no qualification whatever; and at a public meeting of chemists and druggists held at the rooms of the Pharmaceutical Society on Sept. 1 it was resolved, on the motion of Mr. Joseph George, that the words "or a registered pharmaceutical chemist" be added to the clauses empowering only qualified medical practitioners to use the name or title of dentist. The following new clause was also proposed by Mr. H. Gamble, and adopted by the meeting:—"Nothing contained in this Act shall be construed to infringe or interfere with the rights and privileges hitherto enjoyed by registered pharmaceutical chemists." It was decided to forward printed copies of these resolutions and amendments to every member of the Legislative Assembly.

Mr. S. M. Burroughs, of the firm of Burroughs, Wellcome & Co., Snow Hill, London, is at present in Melbourne. Mr. Burroughs came out with a view of introducing the special pharmaceutical preparations of his firm into the Australasian colonies.

I also understand that Mr. Francis W. Forrest, who during the Exhibition year came out to represent H. P. Sleeman & Co., Lime Street, City, is again on his way to the colonies.

A representative from Messrs. Evans, Lescher & Co. is also, I believe, advised to arrive shortly.

A sad case of death resulting from the ignorance of a chemist's assistant is reported from Brisbane. A child being ill with whooping-cough, a woman went to a chemist's shop to get a prescription made up, in whic' sweet oil of almonds was an ingredient. The assistant who made up the mixture in mistake supplied essential oil of bitter almonds. The medicine was given to the child, and death followed a quarter of an hour after. When the doctor who was called in spoke to the assistant about the mistake he asked him if he did not know the difference between these two oils of almonds, and it appeared that he did not. The judge, before whom the assistant was tried for manslaughter, remarked, "Here we seem to be in the hands of a lot of boys," and again, "I consider it is a shame—a great shame—not to examine them and see if they are fit to be chemists. We have laws," observed His Honour, "to prevent the adulteration of spirits and milk; but there seems to be nothing to regulate the dispensing of medicines." The assistant who undertook work for which he was so little qualified was sent to gaol for three months for his blunder. The sentence would doubtless have been more severe but that the jury thought the laxity of the law was as much to blame as the prisoner, and recommended him to mercy on that account.

#### THE MANUFACTURE OF DYNAMITE.

WE take the following account of the works of the British Dynamite Company from a recent weekly supplement to the *Leeds Mercury* :—

The establishment in question is situated at Ardeer, on the Ayrshire coast, a few miles south of Ardrossan, and it is a place apart. The nearest village is about a mile distant, and on one side the factory looks out upon the estuary of a great river. This isolation cannot have been called for by the emission of hurtful fumes. On the inland side, a stretch of land, famous for the fertility of its soil, yields its increase, not a blade changed in colour, not a leaf in a shrunken state, nothing in vegetation appearing dwarfed or blasted. So far from what is going on here doing hurt to nature, the desert of sand on the coast-line is gradually being reclaimed and formed into verdure-bearing depressions and slopes. In the garden behind the manager's house grapes hang in noble clus'ers under glass, and delicate flowers that refuse to live in a city bloom in bardy profusion in the open air. The air is laden only with the balsam of the sea breeze, and the faces of the workpeople show that whatever else it may be theirs is not an unhealthy occupation. It is their garb, however, rather than their features that the stranger notices. Look at them in the morning as they pass the policeman at the gate, and their appearance calls for no comment. But see them a few minutes afterwards as they come forth from the row of cottages into which they entered, and pass onward to their individual places in the establishment, and a change will be noticed. They are now in uniform, and have been told off apparently into gangs, each gang having its distinctive colour. Prominent are a number clad in bright scarlet, but the majority wear clothes of a more sombre colour. There are women as well as men in the place, and they also have undergone a transformation. Their cotton prints have either been removed or hidden; they are wrapped as in the sackcloth of a nun, but they are the merriest of novices one could wish to see. It takes some time for the various gangs to get into place, for the works cover nearly a square mile in area. The buildings are scattered about as are the shanties in an embryo American city. There are large structures and small ones—some of brick, some of wood—but no two are together. Some are on hilly places, like towers of observation. It is mostly to these the men in red have gone, and there they move about like so many animated danger-signals. Down in the depressions are the scattered huts, and into these the women enter. The less conspicuous workers find their way to the buildings on the level. Once the gates close upon them in the morning, the operatives are shut in for the day. Not until night do they resume their ordinary clothes and pass onward to their homes. There are about 250 workers, and they have the appearance of men and women content with their position.

The process followed in the preparation of the material has as its basis the discovery made by Mr. Noble—namely, that by the use of an inert substance the power of the explosive is not lessened, while the risk attending its application is reduced. The inert substance used is a porous, silicious earth, resembling flour in its prepared state. Nitro-glycerine is absorbed by this powder, and the compound, after passing through various stages, each adopted with the view of lessening the risk of handling, is made up into cartridges, of varying lengths and of degrees of power. The cartridge material, divested of the agency of a detonator, may be handled and subjected to percussion without explosion. Of the consistence of putty, it is run through a machine not unlike that used for sausage-making, and not unlike a long string of sausage is the compound itself when ready for cutting up and packing. It is this part of the work of the manufactory at Ardeer in which the women are chiefly employed. One feeds the machine; another seizes the roll as it comes out and cuts it into exact lengths with such rapidity that she keeps two others at work wrapping the sections into the parchment paper set apart for the cartridge. The idea of the minimum of risk runs through the place, and, in consequence, not only is every little hut in which this operation is conducted separated from its neighbours, but not more than four women are allowed in each. The distinctive clothing is another protection, although its use is more obvious in the case of the men than the women. There are grave reasons why the men in red should be separated from the men in blue, and the men in white flannel from either of the other two. The mere cutting up and packing is simple and safe enough; but there are intricate processes connected with the preparation of the explosive portion of the compound, which, if not carefully watched, are dangerous, and as the garb he wears is an index to the work he is doing, it is easy to pick out a man who strays from his own department into another. There is a constant watch to prevent dereliction of duty. Four men from the county police force, paid by the company, perambulate the premises. They speak to no one, and they may not be spoken to. At uncertain intervals, also, there comes into the place a Government official, who sees whether the regulations laid down by Act of Parliament are faithfully adhered to, and as he is a functionary who may come any day the whole establishment is kept at all times in readiness for him. Each department has an overseer who is thoroughly familiar with the particular process under his supervision; and over all is a manager whose wide practical knowledge is such that he can be appealed to on any subject, let it be the right way to wrap up a cartridge or some delicate analysis in the laboratory. Reference has been made to the laboratory. It is in this part of the establishment where the processes pass through the experimental stage, and in this work a corps of qualified chemists is constantly employed. What is done on a small scale over the test-table is done on a large scale afterwards throughout the manufactory. The product for the market comes only after patient and convincing demonstration, and one peculiarity of its manufacture is that it brings into employment many other workmen than those who deal with it directly in any of its stages. Thus, Ardeer has its carpenters, its plumbers, and its bricklayers, as well as its compounders and its packers. Nay, there are even seamen connected with the concern, for on the day on which this visit was made a steamer—the company's own—with a danger-flag flying, was lying in the firth, taking in a cargo of the explosive material. The shipment of the dynamite, equally with its preparation, is subject to strict regulation. There are limits as to the quantity which may be sent out at any one time, and there are rules laid down for the arrangement no less than for the size of the cases holding the material. That it is a profitable undertaking in which the company are engaged is apparent from the high premium on the original shares; and that their product has become a "resource of civilisation" is shown by the demand for it from every part of the globe where man, warring with nature, is uprooting the stumps of trees that hinder the progress of his plough, levelling the rock that comes between him and a straight path, unloosening from its firm foundation the stone that is to build his house, breaking into the seam of the coal that is to cook his dinner, or making deep and navigable the stream that gives him communication with his neighbour.

## PEPTONISED FOODS.

DR. WILLIAM ROBERTS has within the last few years repeatedly called attention to the great value in various cases of impaired digestion and nutrition of peptonised foods. By this term are to be understood all foods in which the process of digestion has commenced artificially—to use a clumsy term—outside the human body. In Quain's "Dictionary of Medicine," just published, is a description of the methods of preparing and using these foods. Two distinct forms of peptonising are available—that by pepsine and hydrochloric acid, which acts only on albuminous matters and yields products not quite palatable, and that by the secretions of the pancreas. These digest both starchy and albuminous matters, and effect the change with so little influence on appearance and savour that foods may be profoundly peptonised without revealing the fact to the most fastidious palate. The best solvent for the pancreatic secretions seems to be a diluted spirit. The preparation of a solution is so tedious that Dr. Roberts recommends practitioners to use Benger's liquor pancreaticus, prepared under his own suggestion and direction.

Mr. Benger has carried out Dr. Roberts' ideas in more than one form. First, there is the liquor pancreaticus—a solution of the secretions of the pancreas. Next, is liquor pepticus—a solution of the digestive principles of the stomach, and equivalent to an exceedingly active fluid pepsine. Then, also, he makes a peptonised beef jelly and a self-digestive farinaceous food.

One or two teaspoonfuls of the liquor pancreaticus will reduce a pint of the thickest gruel in about 20 minutes to a thin watery liquid, with some undissolved sediment.

Mr. Benger (Mottershead & Co., Manchester) publishes a circular in which he gives extracts from Dr. Roberts' lectures detailing directions for the domestic preparation of various foods.

## CHILBLAINS.

CORRESPONDENTS of the *British Medical Journal* have been giving their experiences on the treatment of chilblains. "M. D." says two winters ago he got many replies to an inquiry for treatment inserted in the same journal, but found none very useful. He thus summarises:—Liniment of aconite, recommended by Dr. H. L. Snow, relieved the itching, but did not cure the chilblains. Dr. R. Fullerton recommended equal parts of liniment of aconite, and oil of turpentine. Mr. C. E. Greenwood advised an ointment of lard and mustard to be rubbed in before a fire for 20 minutes. Very hot water has also been recommended. Galvanism was recommended by Mr. A. D. Watteville. Dr. J. B. Sammut recommends 20 minimis of tincture of arnica, in an ounce of rectified spirit, to be well rubbed in night and morning with a piece of flannel. From anodyne amyl colloid, recommended by Dr. W. J. H. Lush, I did not derive any benefit. Dr. C. H. Hartt recommends the following:—Curd soap,  $\frac{5}{4}$  j. water,  $\frac{5}{4}$  v.; dissolve by aid of heat, and add gum camphor  $\frac{3}{4}$  v., rectified spirit, 3vj., essence of bergamot, 45 minimis; lastly, add liquor ammoniae fortior, 3vj. Sir Astley Cooper recommends strong solution of acetate of lead. Mr. W. Square recommended the internal administration of opium. He gave it as neptene, with a little Epsom salts and syrup of ginger, night and morning. Dr. T. F. Pearse recommended nitrate of silver. He advised cold bathing, abstinence from alcohol, and large boots. Billroth (*Surgery*, vol. 1.) recommends white precipitate ointment, tincture of cantharides, and other remedies. "M. D." thinks the constant wearing of gloves out of doors increases the liability. He is himself in good health, out riding and driving all day long, in all weathers; and, in spite of all he can do, suffers considerable discomfort all the winter, if the weather is at all severe.

Mr. N. Grattan (Cork) says that Dr. Balfour recommends faradisation. He (Dr. Grattan) has used this treatment successfully in many cases during the last three or four winters. An electro-magnetic machine may be used. One theophore should be applied directly over the chilblain, the other to any dis *ant* part of the body. The current should

be used as strong as the patient can conveniently bear for from three to five minutes, and immediate relief will ensue. After using the current twice a day for two or three days the chilblain, if unbroken, will have disappeared. Broken chilblains are equally benefited by this method, but the treatment must be more prolonged.

Mr. E. H. Hardwicke recommends anodyne colloid, made by Richardson, of Leicester. It is applied with a camel-hair brush three or four times, and the part is covered with oil-skin for two or three seconds, and the chilblains disappear in less than two minutes.

Mr. J. Johnston (Dalkeith) recommends, from experience, the following:—R. Pulv. iodoform  $\frac{5}{4}$  ss; thymol  $\frac{5}{4}$  ss; olei eucalypt. glo.  $\frac{5}{4}$  i. Rub well in a mortar till mostly dissolved, and apply freely over the inflamed parts twice or thrice daily. He has found the application very useful in all forms of "frost-bite," especially if used early. When dry it is well to cover the parts loosely with cotton wool.

Mr. Thos. Price (Manchester) has found good result from 2 drachms of nitrate of potash dissolved in 6 ounces of vinegar, well rubbed over the chilblains.

A Member declares the powder called *pasma* an excellent remedy for chilblains. It should be freely dusted on them with a puff, and some shot into the stocking before putting on. It is manufactured by Curtis & Co., of Baker Street.

Mr. S. Grose (Melksham) considers the nearest approach to cure is brisk, vigorous, daily walking; any other exercise is futile in those strongly disposed to chilblain. One of his friends, a lady who always suffers each winter, has been much relieved by taking one glass of port after luncheon and dinner; another, by leaving off her habitual "tot." No tonics are of the slightest use; but very many stimulant and anodyne lotions and ointments will temporarily relieve sting, and smart, and swelling, only to recur after the first time the part affected becomes cold. The disease is generally attributed to weak circulation; but this certainly is not the whole cause. After 40, the rule is not to be further troubled; yet circulation is commonly weaker than in youth. Mr. Grose has long passed 40, but suffers as much as ever from chilblains.

Dr. E. W. Alabone declares the following prescription to be almost infallible in curing unbroken chilblains:—One egg well beaten; diluted acetic acid, 8 ounces; spirit of camphor, 1 ounce; oil of turpentine,  $\frac{1}{2}$  ounce; tincture of arnica, 1 drachm. The mixture must be well shaken, and, after the feet or parts affected have been soaked in hot water and dried, the lotion must be rubbed in, and allowed to dry before the fire. As a rule, one application is sufficient.

W. B. B. has found the following liniment very useful in the treatment of chilblains:—Venice turpentine, 2 drachms; castor oil, 1 drachm; collodion, 1 ounce. This liniment is to be painted on frequently with a camel's hair brush. If the chilblains be broken, he orders an ointment of camphor 2 drachms, vaseline 1 ounce, to which may be added with advantage 10 minimis of chloroform.

W. McM. advises the use of the following application, recommended by Marjolin:—Dissolve together balsam of Peru  $\frac{5}{4}$  ss, and rectified spirit of wine  $\frac{5}{4}$  ss; then add dilute hydrochloric acid  $\frac{5}{4}$  ss, with compound tincture of benzoin  $\frac{5}{4}$  ss. A little of this liniment is to be occasionally rubbed into the affected part, or a piece of lint moistened and applied. This can only be used when the cuticle is not broken. Should the chilblains be "broken," Turner's cerate is a very good dressing.

Dr. Alfred Wise (Wiesen) finds the most effectual treatment is to paint the inflamed parts every night and morning with a liniment consisting of 2 drachms each of soap liniment and belladonna liniment, and 4 drachms of liquor epispasticus. Care must be taken not to use this too freely, or a blister will result. Should the intense itching not be allayed after a few trials, he paints the chilblains with a solution of nitrate of silver (gr. 30 to the ounce), until they become blackened. Those subject to chilblains should avoid tight boots and kid gloves, getting the feet damp, or allowing them to become intensely cold. In cases of vesication, poultices may be applied at night, and iodoform ointment (30 grains to an ounce) during the day.

W. S. advises plunging the feet or hands, whichever may be affected, into water, as hot as can be possibly borne, keeping them there for half-an-hour, renewing the hot

water; then going to bed, wrapping up the part affected in hot flannel. In the morning, the intolerable itching will have quite disappeared. The patient must wear cork soles in his boots, which must be stout and large; and woollen mitts on his hands, to prevent the recurrence of these unpleasant visitors.

#### POISONOUS PROPERTIES OF THE JUICE OF THE CASSAVA ROOT.

THE sweet cassava (*Manihot Api*) and the bitter cassava (*M. utilissima*) are very extensively grown in the West Indies and South America for their edible tubers, much used as a culinary esculent, and for the starch obtained by grating and washing, which is converted into tapioca. The milky sap of the latter species has long been known to be a strong vegetable poison, which is destroyed through pressing the grated root in the first instance, the remaining acidity being expelled by the heating process.

In 1796 Dr. Clark, of Dominica, describing the fatal effects resulting to negroes from drinking bitter cassava juice, compared the action of the poison to prussic acid, and Dr. Fennen, by experiments made at Cayenne, proved that the poison, like prussic acid, was volatile, and could be isolated by distillation.

Subsequently Messrs. Henry and Boutron-Charland, by analysing bitter cassava juice imported into France, ascertained that the poison was prussic acid. In 1838 Dr. Christison confirmed their discovery by an examination of some well-preserved juice from Demerara.

Notwithstanding this early identification of the poison, no attempt had apparently been made to determine the quantity yielded by the plant until 1877, when Mr. E. Francis, F.C.S., undertook an inquiry into the subject, the results of which he has recently published in the journal of the Royal Agricultural and Botanical Society of British Guiana.

An examination was made, not only of bitter cassava, but also of a number of samples of sweet cassava, and, contrary to expectation, the latter were found to contain nearly as much prussic acid as the former. Fifteen samples of sweet cassava were obtained from different cultivators in Trinidad, and every one of them contained prussic acid, nine out of the number (or 60 per cent.) yielding sufficient, from 1 lb. of the root or  $\frac{1}{2}$  pint of the juice, to kill an adult. The following summary shows the average, as well as the highest and lowest quantities of prussic acid, that were met with in 15 samples of sweet, and 10 samples of bitter cassava:—

##### Sweet Cassava (15 Samples).

|         |    | Per cent. | Grains of prussic acid | Grains of prussic acid per lb. |
|---------|----|-----------|------------------------|--------------------------------|
| Average | .. | ..        | .0168 ..               | .. 1.75                        |
| Highest | .. | ..        | .0238 ..               | .. 1.66                        |
| Lowest  | .. | ..        | .0113 ..               | .. 0.791                       |

##### Bitter Cassava (10 Samples).

|         |    | Per cent. | Grains of prussic acid | Grains of prussic acid per lb. |
|---------|----|-----------|------------------------|--------------------------------|
| Average | .. | ..        | .0275 ..               | .. 1.927                       |
| Highest | .. | ..        | .0422 ..               | .. 3.094                       |
| Lowest  | .. | ..        | .0132 ..               | .. 0.924                       |

The juice of the bitter cassava, mixed with molasses and fermented, has been made into an intoxicating liquor, which is much relished by the negroes and Indians. The concentrated juice, known in the colony of British Guiana as cassareep, is an Indian preparation. One of its most remarkable properties is its highly antiseptic power, preserving meat that has been boiled in it for a much longer period than can be done by any other culinary process.

How scientific attainments are rewarded in Germany may be judged from an advertisement which the *Chemiker Zeitung* quotes from a journal devoted to the sugar industry in Germany. The services are required of an "academically-educated chemist, fully acquainted with the manufacture (sugar), who can undertake in summer the coppersmiths' work, or the oversight of the teams of draught-oxen."



##### LIEBIG'S EXTRACT OF MEAT.

In our August number we reported a trial, before Mr. Justice Field, in which the Liebig's Extract of Meat Company sought to restrain the advertisement and sale by a Mr. Anderson of a preparation under a title which they considered to infringe their rights. Mr. Anderson also brought an action against the company, claiming damages for the issue of a circular which he alleged had been injurious to him. Mr. Justice Field gave judgment on the 8th inst. In stating the facts of the case, he said:—In the year 1865 the plaintiff company was established for carrying on the business of manufacturing and selling Liebig's extract of meat, an article of food which had been extensively made and sold ever since the year 1856, when the secret of its manufacture was fully explained by Baron Liebig in his "Annals of Chemistry and Pharmacy," published in the year 1851. The extract, which had up to this time been merely used as an article of medicine, soon became a well-known and much-used article of food, owing to the fact that the Baron publicly announced the secret, and made a present of it to all the world. In 1863 it occurred to a gentleman named Giebert that this article was capable of being introduced on a larger scale than it was then being manufactured in Germany, and he proposed to Baron von Liebig that a company should be started at the River Plate to manufacture the article, and accordingly in that year the Fray Bentos Company was established. In the circular issued by the Baron at this time he expressed a desire that the extract manufactured by the company should be designated by the name "Extractum Carnis Liebig," owing to its being prepared according to his receipt, and he expressed his willingness to analyse each consignment, and, in the event of its being of the proper quality, a guarantee of its condition would be given by him. There could be no doubt at all that the Baron did express his desire that the extract should become an article of common use, and that no person should have the monopoly of its manufacture. The account which the Baron gave of the arrangement that he had entered into with Giebert was not so full or accurate as might be wished. By the arrangement made in 1863 with the Fray Bentos Company, the Baron and Dr. Pettenkofer were to receive for five years a commission of 2 per cent. on the annual profits of the manufacture, and it was an important part of the case that the Baron and Dr. Pettenkofer, in return for that 2 per cent., analysed and certified their approval of the extract manufactured by the company. Up to the year 1865 the bulk of the extract sold on the London market was the produce of the Fray Bentos Company, but for many years before that the extract had been sold in certain parts of England, though the sales had not reached to any great extent until the year 1865. Between 1861 and 1865 the value of the extract as an article of commerce had become generally known, and in the following year, 1866, various manufacturing chemists in England and elsewhere commenced to manufacture the extract, and some of them were desirous of securing the advantage of putting the product on the market with a guarantee that it was of the quality of Liebig. The extract so manufactured was sold in England by many chemists as "Liebig's extract," and by others as "Baron Liebig's extract of meat." Amongst other persons, a Mr. Tooth, of Sydney, manufactured the extract in Australia in the same way as the Fray Bentos Company manufactured the extract in Uruguay, and Mr. Tooth entered into a negotiation with the Baron for him to analyse and guarantee the articles manufactured by him. Various letters passed between the parties upon the subject, but an arrangement was not come to by reason of what was occurring at that time. What was happening was

this—that the Fray Bentos Company were utterly unable with the capital at their command to meet the demand for the extract of meat, and they were proposing to enlarge their operations and to form the Anglo-Belgian Company, for the purpose of extending and promoting the manufacture. In November the prospectus of this company appeared, and upon Baron Liebig becoming the scientific director of the company the negotiations with Mr. Tooth came to an end. In the letter written by the Baron some short time after, he stated that the instructions for the manufacture of the extract would be found in his thirty-second letter on chemistry, and that the Anglo-Belgian Company had acquired patent rights for the manufacture in Uruguay and Buenos Ayres, but not for England. From that letter it was plain that the Baron had not the smallest idea that he could interfere with the sale in England, or create a monopoly for it there, whatever he might do elsewhere. At the latter end of 1865, or during the first six months of 1866, Mr. Tooth had perfected his arrangements for manufacturing the extract in Australia and for bringing the same into the London market, and in November, 1865, he entered into an agreement with Messrs. Allen & Hanburys to sell the article manufactured by him. It was important to observe that at the time of the agreement Messrs. Allen & Hanburys (who had for some time dealt in the extract of meat of the Fray Bentos Company) entertained the hope that they would be able to secure the Baron's analysis for themselves, because in the agreement between them and Mr. Tooth they inserted a proviso that they should not be compellable to sell any extract which came from Australia unless it had received the approval of Baron Liebig, or, in case he declined to approve it, by some other chemist to be mutually agreed upon between the parties. As competition was springing up all round, those who were interested in the success of the new company were evidently endeavouring to prevent the Baron from lending his aid to anybody else, and to secure, if possible, a monopoly to themselves; and in the month of April, 1866, two documents were signed which were of the greatest possible importance to the present case, and were relied upon by the plaintiff company. One was a power of attorney from the Baron, granting the sole and exclusive right to the use of the name "Extractum Carnis Liebig," and the other was an agreement entered into between the Baron and the company, by which the Baron granted the full use and benefit of his invention in South America and any other part of the world. It also confirmed the powers of the company, and provided that for ten years from 1866 he would analyse samples of all extracts arriving at the company's dépôt in Munich, and that he would keep the invention a secret. Upon the execution of this agreement, Dr. Pettenkofer became the delegate of the Baron, and was to analyse the extract in case the Baron should be unable to do so. The plaintiff company, who succeeded the Frey Bentos Company, substantially adopted the same mode of dealing with the extract. The mode in which the company carried on their business was stated in par. 13 of the bill of complaints which was filed by them against Messrs. Allen & Hanbury for infringement of their rights. In 1865 and 1866 Messrs. Allen & Hanbury had received a good many consignments of extract under the name and designation already referred to, and in the year 1866 they began to receive the extract from Mr. Tooth, and thereupon the plaintiff company commenced an action against them for the purpose of restraining the use of the words "Liebig's extract of meat," or any other title of which the word "Liebig" might form part. Upon that case being heard before Vice-Chancellor Wood (afterwards Lord Hatherley), he, without calling upon the defendants' counsel, dismissed the action, thinking that it was impossible to grant an injunction to restrain the defendants selling the extract under the title "Liebig's extract of meat," as the name had been acquired by them before the Fray Bentos Company acquired the right to the name in 1862. Of course the decision which was then arrived at by the Vice-Chancellor was merely a decision upon a question of fact, and was not binding upon the Court in the present instance, but his lordship felt bound to say that he had come to the same conclusion of fact, viz., that when the Baron and the present plaintiff company entered into the arrangement in question, the power of the Baron to create what he did was gone, as the name

had become common property. The decision of Vice-Chancellor Wood having established that the word "Liebig" was common property, the plaintiff company determined to alter their title in order to protect their property. There was no suggestion that the extract manufactured by the defendant Anderson was not a *bonâ fide* article—in fact, some of the witnesses stated that the article was so good that many customers preferred it to the plaintiffs'. Now, it was important to see what the company did not do, and what they did do, at the time they altered their title. In the first place they registered a trade-mark, which consisted of the words "Extractum Carnis Liebig, manufactured by the Liebig Extract of Meat Company (Limited)," and underneath them placed an ox and a sheep. Across the labels was written in strong blue ink the words "Justus von Liebig," that being a facsimile of the Baron's signature. This signature was still used by the plaintiffs although the Baron had been dead for some years. In 1881 a company, known as the Australian Meat Company, was incorporated, of which Mr. Anderson was the secretary, but the company not being a success, he appeared to have made up his mind (as he had a perfect right to do) to sell Liebig's extract of meat, and the course he pursued was as follows:—He bought the extract upon the London market and placed it in pots bearing the words "Baron Liebig" and a photograph of the Baron. The plaintiff company complained of this, and said—Although it is true you may call it "Liebig's extract of meat," you have no right to use the word "Baron," and they asked Mr. Anderson to discontinue its use. In like manner they also wrote to Mr. Hooper, who said that he did not care much about the word "Baron," but he objected to give any undertaking, and thereupon the company commenced the present action. At the same time they also wrote to the customers of Anderson, alleging that the use by Anderson of the picture and the title were unauthorised, and they succeeded in obtaining an undertaking from many of the customers not to sell the article. Now, having reached that stage, it was necessary to consider what the defendant had done. As he had already stated, Mr. Anderson did not call his article simply "Liebig's extract," but he used the word "Baron," as other persons had done before him. It was to be observed that the plaintiff company had never used the word "Baron," so that it could not be said there had been any imitation in that respect, but it was said, although there was no imitation of that kind, yet the use of the word "Baron" and the photograph were calculated to deceive the public into the belief that they were purchasing the plaintiff's article, and that the defendant was, in fact, obtaining the benefit of the reputation which the plaintiffs had acquired. The real question which had been argued and which he proposed to decide was, whether the extract sold by the defendant was sold under such a title, designation and brand as to be reasonably calculated to deceive—not the trade, because the trade would not be misled about such a matter—but whether it was calculated to deceive the public. A great number of witnesses had been examined on both sides, and it was said that the use of the word "Baron" and the picture suggested that there was a personal connection between the defendant and the Baron, but he did not think such was the case. His lordship, having referred to the label and pots used by both parties, and pointed out the various distinctions which existed, and which have been already fully described during the arguments, said he had come to the conclusion that the plaintiffs had not made out their case, and consequently the first and third action must be dismissed with costs. With regard to the second action, which had been brought by Mr. Anderson to restrain the company from issuing circulars to his customers, he thought that the circulars had been issued with the *bonâ fide* intention of restraining the use of what they considered their trade-mark, and not with any other motive, and therefore he should dismiss the action.

#### THE LAW AND LIBELLous ADVERTISEMENTS.

THE judge of the Nantwich County Court has decided that an editor might alter an advertisement to prevent libel. An application for a small account was made by Dr. Mackie, of the *Warrington Guardian*, to test the matter; the payment of an advertisement having been refused, on the plea that he had changed "machinations" to "doings."

## CHEMISTS AND DRUGGISTS' TRADE ASSOCIATION OF GREAT BRITAIN.

## Prosecution under the 17th Section of the Pharmacy Act, 1868.

At the Lambeth Police Court, on Wednesday, November 1, Sydney Joshua Marsh, 136 Lambeth Walk, was charged before Mr. Saunders, stipendiary magistrate, with having sold to George Revill Templeman, 23 Burlington Chambers, New Street, Birmingham, Assistant-secretary of the Chemists and Druggists' Trade Association of Great Britain, a certain poison, to wit, oxalic acid, the same not being labelled with the name of the article, the word poison, together with the name and address of the seller, contrary to the statute in such cases made and provided.

Mr. Henry Glaisyer, Solicitor of the Association, conducted the prosecution; and Mr. Mayo, solicitor, appeared for the defence.

Mr. Glaisyer, in opening the case, said that Mr. Templeman, on October 24 last, went to the shop of the defendant at 136 Lambeth Walk, where the defendant resided and carried on his business, that of an oil and colour merchant. The plaintiff there purchased from the defendant personally 1d. worth of oxalic acid, which was a poison within the meaning of the Act. The acid was supplied screwed up in a piece of printed paper without any label whatever.

Mr. Mayo said before witnesses were called for the prosecution he wished to raise an objection to the summons. The stipendiary would notice that it was taken out by an association. What was known about this association of chemists and druggists? Suppose the stipendiary thought fit to dismiss the case, to whom was his client to look for the payment of the costs? This association might have goods on which to claim or might not; he could not say, and he apprehended that the Bench could not say.

Mr. Glaisyer said that if Mr. Mayo would refer to the summons he would see that it was not taken out by an association, but by an individual, that individual being Mr. George Revill Templeman, the assistant secretary of the association to which Mr. Mayo referred.

Mr. G. R. Templeman, having proved the purchase as described by Mr. Glaisyer, was cross-examined by Mr. Mayo.

You say defendant is an oilman, does he not keep an Italian warehouse?—From the appearance of the shop I should say he was an oil and colour merchant.

You say you have tested this oxalic acid?—I have.

Tell me how you tested it?—I took a small portion of the crystals and dissolved the same in water, the solution thus obtained I treated with a solution of nitrate of silver, when a white precipitate of oxalate of silver was thrown down, the same being insoluble in acetic acid but soluble in hydrochloric acid. I also applied other tests.

Did you find any Epsom salts in it?—The contents of the packet were sold to me as oxalic acid. I tested for oxalic acid and found it. I did not apply test for Epsom salts.

Was there sufficient oxalic acid in the packet to kill anyone?—There was.

Did you not ask for this acid to clean brass for a person who lived opposite?—No; I did not say that.

Did defendant explain to you when he sold this poison that it was dangerous?—He said, "Be careful not to leave it about as it is poison."

Mr. Mayo said he should call no witnesses. He thought it very remarkable that a Birmingham association should send an informer and a solicitor all the way from Birmingham to attack his client; he ventured to assert that there were hundreds of other persons selling poison in a similar way—many residing even in Birmingham. Was there no association in London that could look after the interests of the public without Birmingham people coming up there to do it. He thought it a very strange thing that the London people should have to be taught by people coming from Birmingham. He was informed by his client that the packet sold contained a very great proportion of Epsom salts, and that if any person had taken the contents of that paper it would probably have done them more good than harm. The prosecutor went in his client's shop and said he wished to purchase something for cleaning brass, in reality he wished to obtain the poison for a totally different purpose, and it was a question for the Stipendiary whether under these circumstances he could believe the evidence given by the complainant. His client had been brought up to the grocery

business, and it was only very recently that he commenced to sell poison. If the Stipendiary thought there had been an offence committed he trusted only a small penalty would be inflicted.

The Stipendiary said he thought the prosecution had made out a very clear case. Persons who undertook the responsibility of selling must make themselves acquainted with the provisions of the statute under which those poisons were sold. The defendant had, however, at the time of sale exercised a certain amount of discretion, he having told the prosecutor to be careful and not to leave it about as it was poison. Under the circumstances he thought a small penalty would meet the ease, the defendant must pay a fine of 10s. and 2s. costs.

## UNQUALIFIED MEDICAL ASSISTANTS.

In characteristic style Mr. Commissioner Kerr dealt with a case involving the rights of unqualified assistants in the City of London Court on November 5. It was an action in which Mr. Moses Block, doctor of medicine, of 19 Chiswell Street, sought to recover from Mr. Richard Poetting, of 6 New Basinghall Street, the sum of three guineas for medical services rendered.

Mr. Pease, solicitor, appeared for the plaintiff, and Mr. Lawrence, solicitor, for the defendant.

Mr. Emile Bransom, the plaintiff's assistant, said that the charges were fair and reasonable, and that the defendant had been attended by himself and his employer.

His Honour: Are you a qualified medical practitioner?

Witness: No; but my employer is.

His Honour: But did you attend the defendant?

Witness: Yes: on behalf of Mr. Block.

His Honour: You had no right to do so.

Mr. Pease: Is this not a similar case to that of a clerk attending for a solicitor?

His Honour: No. The law says that a doctor cannot recover for medical advice given by his assistant.

Mr. Pease: But here the plaintiff instructed, and sometimes he called upon the defendant and sometimes the assistant did.

Mr. Lawrence: But did Dr. Block do all the work?

Witness: No; but he saw defendant several times during his illness.

Mr. Pease: Surely, your Honour, this is a monstrous defence.

His Honour: Indeed, it is not.

Mr. Pease: Why should a medical man be compelled to call personally on a patient any more than a solicitor or counsel upon his client?

His Honour: Lawyers are unfortunately allowed to do extraordinary things. (Laughter.) The law, however, says that if a doctor sends his assistant to a patient the assistant must be qualified. I must find for the defendant; but will give leave to appeal if you like.

Mr. Pease: The defendant does not deny that he was attended.

Witness: And he preferred to be attended by me, as he knew me.

His Honour: That only makes the case worse. I may tell you that you are liable to be indicted, and perhaps you will be so some of these days, if anything goes wrong.

Judgment was then given for the defendant, with costs.

## INFRINGEMENT OF THE PHARMACY ACT.

THE Pharmaceutical Society have prosecuted for infringements of the Pharmacy Act the following persons:—Bradford (Bridlington), Rickman (Malton), and Fletcher (Southport), who have all paid into court the penalty sued for, 5l. and costs.

In his cross-examination of the surgeon, the lawyer said that a doctor ought to be able to give an opinion without making a mistake. The surgeon replied, "They are as capable as lawyers." The lawyer said, "A doctor's mistakes are buried 6 feet under the ground; a lawyer's are not." "No," said the surgeon; "but they are sometimes hung as many feet above ground."

## BANKRUPTCIES AND LIQUIDATIONS.

## LEVI TOM GOUCHE, Sheffield.

A MEETING was held at Sheffield, on October 13, of the creditors of Levi Tom Goucher, who resides at 59 Upper Hanover Street, and carries on business at 265 Glossop Road, in that town, as chemist and druggist and wine and spirit merchant. Mr. Marshall, solicitor, Retford, presided.

Mr. Neill, the receiver and manager, stated that the liabilities were 3,748*l.* 12*s.* 5*d.*, and the assets 1,161*l.* 1*s.* 10*d.*, leaving a deficiency of about 2,500*l.* The debtor commenced business six years ago with money borrowed from his father-in-law, and from whom he had since received large sums. He had lost 300*l.* on a patent, 400*l.* paid for goodwill, 455*l.* on fixtures in his shop, and 300*l.* on a branch business, together 1,455*l.* His turnover had been 1,500*l.* a year—1,100*l.* in wines and spirits and 400*l.* in drugs, &c. The former had yielded a profit of 110*l.*, and the latter 160*l.* Working expenses were put at 150*l.*, leaving a net profit of 120*l.* per annum. His household expenses had been 250*l.*, and so the deficiency was accounted for.

Liquidation by arrangement was resolved upon, with Messrs. Neill & Corbridge as trustees, and a committee of inspection. The following is a list of the creditors over 5*l.* :—

|                                       | £   | s.  | d.        |
|---------------------------------------|-----|-----|-----------|
| Anglo Indian Tea Company, London      | ... | ... | 5 6 8     |
| Allen, T. T., Sheffield               | ..  | ..  | 8 9 0     |
| Bourne & Taylor, London               | ..  | ..  | 8 18 3    |
| Barnard & Son, London                 | ..  | ..  | 5 0 4     |
| Battley & Watts (Limited)             | ..  | ..  | 33 10 1   |
| Barrow, H., & Co. (Limited)           | ..  | ..  | 51 13 8   |
| Blundell & Co. (Limited)              | ..  | ..  | 5 17 8    |
| Bristow & Co. (Limited)               | ..  | ..  | 6 9 0     |
| Crosse & Blackwell, London            | ..  | ..  | 5 10 0    |
| Clarke & Co., York                    | ..  | ..  | 8 9 3     |
| Cocking, T., Sheffield                | ..  | ..  | 37 10 0   |
| Cantor & Co. (Limited)                | ..  | ..  | 5 16 0    |
| Druiff & Druiff (Limited)             | ..  | ..  | 6 11 8    |
| Davison Brothers, Manchester          | ..  | ..  | 8 4 0     |
| Edwards & Son (Limited)               | ..  | ..  | 15 12 4   |
| Evans & Son (Limited)                 | ..  | ..  | 14 9 7    |
| Ford & Shapland, London               | ..  | ..  | 12 0 0    |
| Fletcher, —, Stavley                  | ..  | ..  | 5 0 4     |
| Giltay, W. & A., London               | ..  | ..  | 46 0 2    |
| Gibson, R., Manchester                | ..  | ..  | 5 9 11    |
| Hoyle, H., Sheffield                  | ..  | ..  | 169 0 0   |
| Harvey, S., & Co., Birmingham         | ..  | ..  | 5 3 5     |
| Hodgkinson & Co., London              | ..  | ..  | 27 3 0    |
| Hirst & Co., Leeds                    | ..  | ..  | 10 0 1    |
| Jewsbury & Brown, Manchester          | ..  | ..  | 56 0 11   |
| Johnstone, J., Rotherham              | ..  | ..  | 10 0 0    |
| Johnstone, C. T., Sheffield           | ..  | ..  | 1,600 0 0 |
| Leader & Sons, Sheffield              | ..  | ..  | 15 7 0    |
| Langton & Co., London                 | ..  | ..  | 18 8 2    |
| Maw, Son & Thompson, London           | ..  | ..  | 38 10 1   |
| Marshall, G., Retford                 | ..  | ..  | 300 0 0   |
| Ross & Co., Finsbury                  | ..  | ..  | 35 1 6    |
| Ross & Co., Belfast                   | ..  | ..  | 5 8 0     |
| Silverlock, H., London                | ..  | ..  | 15 4 8    |
| Steel, J. & Co., Liverpool            | ..  | ..  | 7 9 6     |
| Sheffield Loan and Investment Company | ..  | ..  | 66 13 4   |
| Sheffield Union Bank                  | ..  | ..  | 400 0 0   |
| Salt & Co., Burton                    | ..  | ..  | 7 15 8    |
| Stors & Smithson, Hull                | ..  | ..  | 8 0 0     |
| Terry & Co., York                     | ..  | ..  | 5 11 8    |
| Todd & Son, Hull                      | ..  | ..  | 6 13 11   |
| Wright & Co., London                  | ..  | ..  | 6 1 7     |
| Wild, J., Mansfield                   | ..  | ..  | 30 0 0    |
| Woolley & Co., Manchester             | ..  | ..  | 8 4 7     |
| Woodward, W. R., Sheffield            | ..  | ..  | 45 12 5   |
| Wrangham, R., Hull                    | ..  | ..  | 6 17 9    |

PLUMBAGO, also known as graphite, and occasionally as black-lead, appears to exist in considerable quantities in Nelson and Canterbury, New Zealand. During the last ten years, specimens have from time to time been sent home, none of which, however, possessed the necessary qualities. Plumbago is used in the manufacture of crucibles, as a lubricant, for polishing metals, and for electrotyping. As a preventive against hot bearings it is unequalled, and for this purpose is to be found on every well-regulated steamer, while recently the electric-light companies have adopted it as the most perfect material for carbonising the filaments used in incandescent lamps; for this and most other purposes it requires to be absolutely pure. Good plumbago is hard and flaky, with a silvery appearance. The great centre of this trade is at Battersea, a suburb of London.—*European Mail.*

## NOTES FROM PARLIAMENT.

## PHOSPHATE OF POTASH.

On October 31, Mr. O'Kelly gave notice that he would ask the President of the Board of Trade whether his attention has been called to a pamphlet written by Dr. Robert Galloway, of Dublin, on the use of phosphate of potash as an antiscorbutic; and if so, whether he will take steps to have its value as a preventive agent properly tested.

## THE MEDICAL ACTS.

On November 1, Sir T. Lawrence asked the Vice-President of the Council whether it was his intention to introduce a Bill to carry out the recommendations of the Royal Commission on the Medical Acts; and if so, when. Mr. Mundella said the report of the Medical Commission was at present under consideration, but the department had not arrived at such a stage in their deliberations as to enable him to state what course they proposed to pursue.

## DRUGS AND CHEMICALS TO JAPAN.

On November 6, Mr. R. Fowler asked the Under-Secretary of State for Foreign Affairs whether Her Majesty's Minister in Japan had been able to induce the Japanese Government to permit the importation of drugs and other chemicals into that country. Sir C. W. Dilke: Her Majesty's Government are not aware that there has been any interference with the importation of drugs and other chemicals into Japan other than medicinal opium. Restrictions are placed by the law of Japan on the sale of bad or spurious drugs, and they are submitted to an examination by the Board of Health before they can be sold to Japanese. Complaints were made in 1879 that certain drugs had been unfairly condemned, but since that time no further complaints have been received.

## VETERINARY.

LIVER-FLUKE IN SHEEP.—Mr. Heath, the Devonshire County Veterinary Surgeon, has carried out a rather extensive experiment to test the possibility of preventing the ravages of foot-rot. He turned out a flock in pastures that hitherto had been fatal to sheep. One half he allowed to feed their own way, but with the food taken by the remainder he every day mixed  $\frac{1}{4}$  oz. of salt and  $\frac{1}{2}$  pint corn. On killing the uncared-for portion of the flock this summer he found their livers full of fluke, so that they could not have lived another winter, whilst the sheep to which the salt and corn were given were perfectly sound. It does not seem easy to reconcile this with the recent discovery that the intermediate generations of the hydatids that cause liver-fluke make their habitation in the water-snail Limnaea.

FOOT-ROT.—Mr. E. King Fordham has written to the *Times* to recommend a method of treating this disease. The most speedy and effectual remedy is, he says, to remove the sufferers from the flock and place them under cover of an open shed, and strew the floor with fresh coal-ashes daily from malt-kilns or other furnaces or fires. He has found sheep that have been unsuccessfully treated for weeks on the land, on being removed to the shed, become quite sound in less than a week; indeed, the worst cases have rarely exceeded a week's treatment in hospital to complete a cure. Of course, the usual dressing must be continued while under cover. He has found clover hay which had been carted, although quite dry, not sufficiently made, and consequently overheated to a dark-brown, nearly black—this, when cut into chaff, he has found to be much enjoyed by lambs, preventing scouring, and much promoting their thrift. It should be remembered that sheep delight in variety of food; should never be crowded in their pens, but have as much room as possible.

A NEW DISEASE.—At a meeting of the Southern Counties Veterinary Medical Association, held at Red Lion Square last week, Mr. G. Fleming, Army Veterinary Inspector, read a paper on a new disease which he had discovered to prevail extensively, chiefly among cattle, in this country, and the

nature of which has until now been hidden in obscurity. It manifests itself by great enlargement and induration, as well as ulceration of the tongue. It also attacks the bones of the face and jaws, appears inside and outside the throat in the form of tumours, and is very destructive, especially among young stock. Mr. Fleming, by means of morbid specimens from the tongues and heads of calves, as well as by microscopical preparations, clearly demonstrated the affection to be due to the presence of a minute fungus, which probably obtains an entrance to the tissues either through the mucous follicles or an abrasion in the mouth. From the peculiar manner in which the fungus grows, and the radiating arrangement of its branches, it has received the name of *Actinomyces*, and it is consequently proposed to designate the disease *Actinomykosis*. It has hitherto only been noticed in Germany and Italy, and no fewer than 16 cases are reported in the German medical journals as having been observed in man. Mr. Fleming produced some evidence to show that the fungus could be successfully implanted from a diseased to a healthy animal; and one of the German cases, in which a man was affected, would lead to the suspicion that it may be communicated from the lower animals to our own species. Instances were given in which the microphyte had also been found in pigs, goats, a horse, and a dog.

## Poisoning Cases.

DEATHS or accidents have been caused during the past month by the following poisons [*d.* signifies that the result was fatal, *a.* that the case was accidental, *s.* that it was suicidal, *a.s.* attempted suicide] :—

ACIDS.—By sulphuric acid, on October 17, at Birmingham, Annie M. Summerfield (17), employed by a jeweller, *d.* By nitric acid, on the same day, at London, Wm. Mennie (54), *a.d.*

ARSENIC.—GUITEAU'S POISONED BOUQUET.—Professor W. C. Tilden, of Washington, who was commissioned to examine the bouquet given to Guiteau by his sister, Mrs. Scoville, the day before his execution, has issued a report upon the subject. It appears that in one half opened flower there were over five grains of white arsenic. This quantity, adds Mr. Tilden, would not only have been sufficient to cause death to a human being, but it was so largely in excess of a fatal dose that the intent to kill might have been defeated by emesis. The original quantity of poison was larger than that found, as the petals of the flowers failed to retain in a dry state some which had adhered when moist.

CARBOLIC ACID.—At Liverpool, on October 7, Mrs. E. Townley (69), *s.* The acid was purchased from Mr. H. J. Palmer, 259 West Derby Road.

CYANIDES AND PRUSSIC ACID.—At Helmsley, on Oct. 22, Ebenezer Robinson (15), apprenticed to Mr. Allenby, chemist, poisoned himself with prussic acid. There was good evidence of insanity.

LAUDANUM AND OPIATES.—On October 7, at Mary Hill, N.B., a young woman, *a.s.*; on October 9, at Wandsworth, Elizabeth Burgess, *a.s.*; at Boston, on October 14, Lucy Dixon (15) was committed for trial on the charge of attempting to murder her mistress by administering to her laudanum or opium in stout; on October 12, at Notting Hill, W. Edw. T. Harris (10 months), from the administration of Winslow's soothing syrup; at Mexborough, on October 28, the infant child of a man named Harrop died after the administration of some infant's preservative; on November 3, at Preston, Robert Parker (33) died through suffocating himself while in narcotic sleep, brought on by taking laudanum.

LINIMENT.—On October 16, at Leeds, Mrs. Mary Hall (76), *a.d.*

MERCURY—WHITE PRECIPITATE.—On October 17, at Southwark, Eliz. Palmer (27), *a.s.*

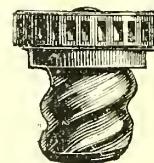
STRYCHNINE.—On October 18, at Middlesborough, Mr. A. Woodford, *s.* (Battle's Vermin-killer, purchased from Mr. H. H. Taylor); on October 19, at Lincoln, Mr. Wm. Holmes, veterinary surgeon, *s.*

VERMIN-KILLER.—At Dover, on November 5, Wm. Rose (50), publican, *s.*



## STOPPERS.

MESSRS. BARRETT & ELLERS have introduced two novelties. The screw stopper and bottle is intended for beverages containing only small quantities of gas, as bottled ale and fermented ginger beer. The illustration needs no further explanation. The stopper is made air-tight by the washer of rubber, which is pressed firmly against the lip of the



bottle by the action of the screw. It might be worth while to try the effect of steeping the washers in melted paraffin wax to prevent hardening and "perishing." A patent for this application has recently been obtained.

The other improvement is the hollow marble or stopper for patent bottles. The usual solid marble does no damage so long as the bottle is full. When empties are returned, however, the marbles, jolted and jarred by the carriers, very often star the bottles and lead to many breakages when rebottling. So serious is this breakage that the Chemists' Aerated and Mineral Waters Association refuse to supply water in patent bottles unless their customers will send for and return them by their own conveyances, and makers of patent bottles recommend that foreign buyers should always export them filled. Wood, rubber and vulcanite stoppers have been used to obviate this difficulty, but the transparent purity and cleanliness of glass have always given it a great advantage. Messrs. Barrett & Ellers' new hollow marble seems to be the simple way out of the difficulty that everyone ought to have thought of before. It is not heavy enough to star the bottle, and is too strong to be broken itself; at least, we tried unsuccessfully, though with malice prepense, to shake it and break it.

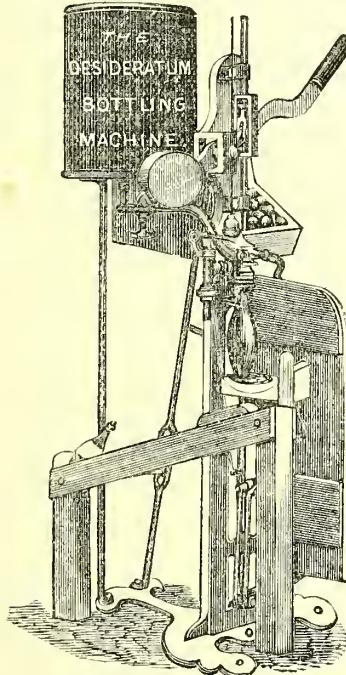
## MAY-DAVIS'S IMPROVED METHOD OF BOTTLING AERATED WATERS, &c.

THIS was exhibited at the Brewers' Exhibition at the stall of Messrs. Hayward Tyler & Co. Our readers will remember an important discussion in this journal on the best pressure for bottling waters. One of the most important points there brought out was that the presence of air in aerated waters is injurious, by making the effervescence explosive, and necessitating increased pressure to secure adequate pungency. When the air can be excluded or expelled, waters bottled at a low pressure present a steady persistent effervescence, and quite enough pungency. In most of the ordinary methods of bottling, the aerated liquid is crammed into the bottle, no means of escape being open for the air. The bottle can be filled only partially by this means, so the bottler has to stop when each bottle is half-filled, and sniff it or allow some of the gaseous contents to escape. What escapes is a mixture of air and carbonic anhydride, and the gas that remains has exactly the same composition. Under the present system there is no chance of expelling the whole of the air, or of avoiding its mixture with the carbonic anhydride. In May-Davis's machine the first touch on the lever lowers a tube to the bottom of the bottle, the

aërated liquid enters from the bottom, lifting the air above it, which is allowed to escape by a valve in the indiarubber cup pressed against the mouth of the bottle. No sniffing is required. Another lever moves the bottle when filled to the corking position. The result of this device is the important reduction of the pressure used in bottling. A pressure of 65 to 80 lbs. produces results equal to a pressure of 120 to 200 lbs. used under the old system. This means a saving of half the cost of the gas, of wear and tear, of horse power, and, above all, of breakages and consequent danger. Waters that we saw bottled effervesced quietly, uniformly, and persistently for a long time. A minor improvement is a device for washing the dust from the corking cone and the bottom of each cork before inserting it.

#### NOVELTIES IN AÉRATED WATER APPARATUS.

HILL & JACKSON's desideratum bottling machine, as illustrated, is a fresh example of the value of time in making aërated waters. The chief novelty in its construction is the bottle deliverer. When the bottle is filled and corked, lifting the foot from the pedal allows it to slide down an



inclined plane to the wirer; the bottler need never touch it, saving his time, and the risk of explosion and injury. In addition to this there is an automatic syruping arrangement, which delivers any quantity of syrup from  $\frac{1}{2}$  oz. to 2 ozs. a bottle, and a spiral current of water washes away any cork dust between the operations.

#### A CARBONIC ACID PUMP.

A PUMP for lifting up beer direct from the cellar into the tap-room in upper storeys, by means of the pressure exerted by liquid carbonic acid, is now employed in several Berlin restaurants. The apparatus consists essentially of an iron bottle about a metre long and 12 centimetres in diameter, which has been previously tested for 250 atmospheres, and which has to support a continual pressure of 40. It is furnished with a tap of special construction, and

is connected with a wind-box tested for five atmospheres, to which a valve is attached which prevents the pressure rising above two. This box is in direct communication with the beer barrel in the cellar, from which, by means of any suitable pipe or tubing, the beer is forced into the tap-room, wherever this may be situated.

In the case of beer the advantage of the apparatus is obvious, the beer being thereby kept out of contact with air, which injures it, and in contact with carbonic acid which improves it, and a barrel tapped, even with weak beer, will keep practically any length of time, and the last glass is often better than the first.

The apparatus, we are informed, is made and filled with pure carbonic acid by Krupp in Essen.

We note this apparatus as a practical application of liquid carbonic acid, which may prove suitable for other purposes. Herr Rhaydd is the designer of the apparatus.

#### Clippings and Pickings.

A PHYSICIAN falls into a fit while making a round of visits, and is carried into a drug store. "Send for Dr. X—," says somebody. "No, no, not for him," says the dying man feebly, at the mention of his rival's name; "if he brought me around it would advertise him! I prefer to die."—*Med. and Surg. Rep. (Phil.)*

OUR SATELLITE.—The following incident was reported in THE CHEMIST AND DRUGGIST of April 15, 1882:—

An elderly Scotch woman went one day to an apothecary's shop with a prescription for two grains of calomel for a child. Seeing the druggist weigh the medicine with scrupulous exactness, and not thinking he did this from anxiety not to get an overdose, but from his penitence to give as little as possible for the money, she said, "Dinna be sae mean wi', man; it's for a puir fatherless bairn."

The following, with an illustration, appeared in *Punch* of a fortnight since:—

##### AGAINST THE GRAIN.

Widow Woman (to chemist who was weighing a grain of calomel in dispensing a prescription for her sick child): "Man, ye need n' be sae scrumpy wi', 'tis for a puir fatherless bairn."

SUNFLOWER OIL.—The sunflower, which is worshipped by the aesthetic school and by the Chinese, is to be turned to very materialistic account. Several acres are to be laid down with sunflowers in the Thames valley next year, and the *Liver Stock Journal*, speaking of the scheme, calls the flower a vegetable, and adds:—"From its seeds is made oil unsurpassed as a lubricant and soap unequalled for softening the skin. Sunflower oil is greatly used for adulterating salad oil, and it burns longer than any other vegetable oil. Sunflower cake is more fattening than linseed cake, its flowers supply the best bee food, and its leaves are much used for adulterating tobacco. Its stalk yields a fine fibre used in Chinese silk, and the best yellow dyes of the Chinese are produced from its flowers."

"STEARN'S NEW IDEA" quotes the following from "Our Continent":—It was evening, when a youth with "penny-royal" step slowly meandered a "serpentaria" walk, apparently communing with the "sweet spirits of nitre." "Aconite" miss her," he whispered in stentorian tones; "I 'aloës' could depend upon her. O Cupid, how 'bitter sweet'! Hark! what was that? Nothing but a belated 'colt's-foot' borne upon the 'squill-y' breeze. Ten miles I 'camphor' to see her, to gaze into her 'glycerine' eyes. Oh, why should I 'sulphur' thus?" and with an agonised, prolonged, soul-stirring, "concentrated ginger" cry of "Bella Donna"! (he was an Italian) he recklessly threw himself into a "fustic" chair, and the clock boomed eight. An "etherial," "chloriformic" step gently approached, a lissome figure with a face of "cold creamy" complexion, nearer, nearer, and the clock boomed nine. The distant barking of a dog mingled harmoniously with "wild cherry," "Peruvian," and "elm" bark, ravishing to the senses. He starts up with glad "hops," rushes forward, and soon his lips are "ground glued" to hers. "My darling!" he mutters, "Iodide of potash" had you failed me, but now hopes, doubts I no 'morphia.' I 'castor oil' to the winds." But she only gazed into his "blue mass" eyes, and the clock boomed ten.

## Medical Gleanings.

PRESCRIPTIONS AND 'PRESCRIBING CHEMISTS.'—The *British Medical Journal* of October 21 contained the following interesting letter, which gives a view of the question not expected from a medical man:—

SIR.—"Because, sir, I gets better medicine, and it does me more good, from the chemist." Thus, in reply to my question, "Why don't you see your doctor?" I have been always of a rather curious temperament—let's say of an inquiring mind. As I happened to know both the doctor and the chemist, I determined to verify the woman's assertion. By a little crafty inquiry I got hold of both prescriptions. Here they are. The doctor's:—

|                                       |               |
|---------------------------------------|---------------|
| Tinct. ferri perchlor. .. .. .. .. .. | 5 <i>ij.</i>  |
| Inf. quassiae .. .. .. .. ..          | 3 <i>xij.</i> |
| M. <i>ij.</i> ter die sumend.         |               |

The chemist's:—

|   |                       |
|---|-----------------------|
| Syrupi ferri hypophos. co. .. .. .. .. .. | 5 <i>iss.</i>         |
| Glycerini .. .. .. .. ..                  | 3 <i>ss.</i>          |
| Aqua .. .. .. .. ..                       | q.s. ad 3 <i>xij.</i> |
| M. <i>ij.</i> ter die sumend. P.h. ag.    |                       |

The woman was suffering from anaemia and general debility. Moreover, I found, on inquiry, that the doctor charged 2*s.* 6*d.* for his mixture, and that the chemist charged 2*s.* for his. This set me a-thinking. How can the chemist give a better article—for the patient was quite correct—for less money, and why does he do so? Many reminiscences of prescribing for the poor now recurred to me. "Thrakely wather an' tartar-emetic"—the Irish dispensary patient's synonym for the mist. tuss. of the dispensary doctor—not very far out either. The mistura quiniae found as the lignum quassiae. The syrupus aurantii represented by inferior molasses. No wonder the poor patient prefers to go to the chemist, where better, nicer, and cheaper medicine can be obtained. Why does he do so? we ask. Why does he (the chemist) give such nice stuff as compared with his superior in the profession of medicine? The answer is simple. He finds it pays. He can write a better prescription than an M.D. Lond., and he can procure or manufacture his drugs more cheaply.

Let us take as an example this very syrupus ferri hypophosph. co. He (the chemist) has learned, from seeing the prescriptions of medical men (for rich patients), that the preparations of the hypophosphites—especially that of iron—are of great value, and are superseding the old forms of tonics of the same class. He goes with the times, and prescribes them. They are nice, but dear—not, however, necessarily so; but the preparations, as supplied to the public and to the profession, are dear. Turning to various price-lists before me, I find liquor ferro hypophosph. co. (Dr. Churchill's formula) is 8*s.* the lb.; Parrish's Food, the same; and Fellows' syrup of the hypophosphites is 7*s.* a bottle, about 1 lb. These are preparations most in use. They are pretty much the same in value, Fellows' differing from the others in containing minute doses of quinia and strychnia as hypophosphites, and Parrish's being distinguished by an excess of phosphoric acid. Of their value as mineral tonics, there is no second opinion, but their price renders them prohibitory to the general practitioner, but not to the chemist. In the first place, he can get them much cheaper than the doctor; and, in the second place, if he does not, he makes them for himself.

There is a moral to all this—two morals, in fact. The first, every man to his trade. Let the doctor leave the supplying of medicine to the chemist; and then he can afford to write not only good, but nice, prescriptions. The second is, let the chemists be content with reasonable profits, and they will benefit themselves and their fellow-creatures.

Let us return to our hypophosphites, for which I have abolished all the old chemicals of a rusty nature. There is no reason in the world why these preparations should not be sold at one third of the present cost. Take 1 lb. of the liquor ferri phosph. co., at 8*s.* per lb. The cost of the materials, working on the scale of ounces, is 1*s.* (I speak from practical experience, for I have made it, in order that my poor patients should not have their teeth discoloured and

their stomach annoyed by rust dissolved in spirits of salt), add 6*d.* per lb. for working expenses, and 6*d.* per lb. for profit. A fortune could be made by selling it at 2*s.* per lb.; a little more for the other preparations, because they contain sugar and quinia.

Now, this may all appear rambling talk, but it is real. Our best and most useful medicines are so high priced as to put them out of the reach of the poor; and this should not be.

I am, &c.,

VERBUM SAPIENTIBUS.

PARASITIC AFFECTION OF MOUSTACHE.—Dr. George Thin records in the *Lancet* a curious case:—A gentleman consulted him in regard to a bald strip which had occurred in his moustache. The strip was about a quarter of an inch broad. He directed the application of—Carbolic acid, 1 drachm; olive oil, 2*½* oz.; lavender oil, 6 drops. This cured the affection in less than a month; but the singular part of the history is that the disease reappeared every November from 1875 to 1880, inclusive. Subsequently the carbolic acid was increased to 4 drachms, and always with the speedy cessation of the loss of hair.

REMOVAL OF HAIR FROM THE FACE.—A method of effecting this by limited and repeated applications of caustic potash was published in this journal some time ago. A correspondent of the *British Medical Journal* gives another plan based on a similar principle:—"A small cautery is necessary. It should be something of the following form:—From a small bone handle pass a stem of platinum-wire three inches long, curved at a right angle half an inch from the end, which resembles a blunt needle. At the angle is a bead-like bulb, which serves as a reservoir for the heat when in use. The bulb and point having been made white hot in the flame of a spirit-lamp, the affected skin (previously shaved) is to be deeply punctured by a number of stabs, close together, and over a space of about a sixpence. Repeated heatings of the cautery will be required, but the process is almost painless, and when the sore heals a white cicatrix will appear, free from pigmentation of hair bulbs. The same process can be repeated at subsequent sittings until the whole affected area is cured." The repeated heatings might perhaps be replaced by the use of an electric current sufficient to raise the wire to the required temperature.

FROST-BITE.—Dr. Laptchinski has made a series of very careful experiments upon dogs made insensible by cold, with the following results:—Of twenty animals treated by the method of gradual resuscitation in a cold room, fourteen perished; of twenty placed at one in a warm apartment, eight died; while of twenty immediately put into a hot bath, all recovered. Formerly frost-bite was treated by friction with snow, and it was believed to be dangerous to attempt to resuscitate rapidly.

TO DISGUISE THE TASTE OF QUININE.—Mr. J. K. Lilly proposes the syrup of yerba santa for the above purpose. Very little seems to be known about this substance. The purest state in which the writer has as yet been able to obtain it is in the form of an amber, mucilaginous mass, soluble in water and alcohol, insoluble in ether, benzine, and chloroform, precipitated by strong acids, and redissolved by alkalies. It may be prepared by mixing a fluid extract, made with a menstruum of not less than 75° alcohol, with an excess of water, boiling to drive off alcohol, shaking with finely-powdered pumice, allowed to stand, then filtering, and the filtrate evaporated to the consistency of an extract. The following formula is proposed for the preparation of a syrup, which has proved to be very satisfactory:—

|  | Parts |
|--|-------|
| Fluid extract yerba santa .. .. .. .. .. | 4     |
| Water .. .. .. .. ..                     | 8     |
| Powd.-red pumice .. .. .. .. ..          | 1     |
| Granulated sugar .. .. .. .. ..          | 14    |

Mix the fluid extract with the water, evaporate to 7 parts, shake with pumice, allow to stand, decant, add sufficient water to preserve measure, then with heat dissolve the sugar. The addition of fluid extract of liquorice in the proportion of half a drachm to the ounce of syrup, or of aromatics, adds somewhat to the elegance of the prepara-

tion. When quinine or other bitter substances are suspended in this syrup, their taste is completely masked. It is far superior to the liquorice preparations used for the same purpose, is pleasant and agreeable, and is easily prepared.—*Chicago Medical Review*, August 15.

FRECKLES.—Freckles are common enough, although they can hardly be regarded in the light of a disease. They consist of round yellowish spots, the size of a split pea or less, and occur not only on the face and hands, but on the parts covered by the dress. Those with fair skins and light hair are most subject to them. It is said they may be got rid of by the local application of common nitre. Some recommend that the nitre in fine powder should be slightly moistened and then laid on all over the face or part affected. Others think it better to touch each spot with a nitre crystal, which may easily be obtained by allowing them to deposit from solution in water. Friar's balsam, mixed with water, is another good application. The special preparation known by the fanciful name of "Virgin's Milk" is said to be composed of Friar's balsam 1 part and rose-water 20 parts. It is used not only for freckles but for other eruptions in the face.—From the *Family Physician* for September.

### MISCELLANEOUS FORMULÆ.

A BLACK ANILINE INK.—Leip. Färb. u. Zeugdr. Zeitg. (iv.) 117.—Dissolve 5 parts nigrosin in 100 parts water, and if the solution is very blue add a few drops of an aqueous solution of Bismarck brown. With the addition of 5 per cent. glycerine it becomes a copying ink.—*Journal of the Society of Chemical Industry*.

A BLACK LACQUER FOR LEATHER.—Leip. Färb. u. Zeugdr. Zeitg. (iv.) 117.—Dissolve—

|              |                | Grammes |
|--------------|----------------|---------|
| Best shellac | .. .. .. .. .. | 40      |
| Sandarac     | .. .. .. .. .. | 10      |
| Mastic       | .. .. .. .. .. | 5       |

In  $\frac{1}{2}$  litre methylated spirit, and add 20 to 30 grammes pure Venetian-turpentine. The solution is coloured a deep black by adding nigrosin.—*Journal of the Society of Chemical Industry*.

LEATHER LAC.—H. Gunther, Berlin, Ger. Pat. 19,267, December, 1881.—Three parts of wax and 2 parts of castor oil, as well as colouring matter, are added to a filtered solution of 80 parts of shellac in 15 parts of alcohol. The whole is evaporated in a vacuum to the consistency of syrup. This lac is put on the leather with brushes, which are wetted with spirits of wine or colourless spirit lac.—*Journal of the Society of Chemical Industry*.

NEW RECEIPT FOR PREPARING SHOE-BLACKING.—E. Heim, Kauteritz, Bavaria. Ger. Pat. 19,279, February, 1882; add. pat. to 18,119, August, 1881.—The following is the receipt for the blacking:—

|                     | Parts              |
|---------------------|--------------------|
| Beeswax or ceresine | .. .. .. .. .. 90  |
| Spermæceti          | .. .. .. .. .. 30  |
| Oil of turpentine   | .. .. .. .. .. 350 |

Are melted and then mixed with—

|               | Parts             |
|---------------|-------------------|
| Borax         | .. .. .. .. .. 10 |
| Black         | .. .. .. .. .. 20 |
| Prussian blue | .. .. .. .. .. 10 |
| Nitrobenzol   | .. .. .. .. .. 5  |

*Journal of the Society of Chemical Industry*.

PRESERVING CAOUTCHOUC GOODS.—The *Journal of the Society of Chemical Industry* reports that a patent has been obtained for preventing the hardening and cracking of caoutchouc goods by steeping them for a minute, more or less, in a bath of melted paraffin, and drying in a room heated to about 100°. The patentees are U. Kreusler, of Bonn, and E. Budge, of Constantinople.

TO RESTORE ESSENTIAL OILS.—If the quantity be small, it is by far better to buy a fresh supply. A generally quite successful way is as follows:—Make a solution of 1 part of permanganate of potash in 8 parts of water, add to

this 100 parts of the oil, and shake well for about 15 minutes; repeat a few times with intervals of one hour. Allow the oil to separate, remove it, and wash with warm water a few times.—P. W. BEDFORD.

TO PRESERVE OILED SILK.—W. N. Smith writes to the *Druggists' Circular* that after having lost several yards of oiled silk, owing to the tissue sticking together, he was advised to dust it well with lycopodium powder before rolling it, and found the device to answer remarkably well. He publishes his experience for the benefit of all druggists.

ACONITE IN DYSENTERY.—Dr. Owen reports the results of 151 cases of acute dysentery treated with aconite. He was induced to look about for another treatment than the conventional one with ipecac, on account of the nausea which often attends the latter, and which often drives hospital patients, especially, to rebel against a repetition of the dose. Dr. Owen gave the tincture of the British Pharmacopœia, which is of one-sixth the strength of Fleming's tincture. He gave 1 minim every fifteen minutes for the first two hours; after that, 1 minim every hour. This would make 30 minimis in 24 hours. Dr. Owen feels that his experience in 151 cases justifies him in speaking quite positively in favour of the treatment. In his paper he gives a very good analysis of his results.—*N. Y. Med. Journ.*

SYRUP OF PHOSPHATE OF IRON.—A correspondent of the *British Medical Journal* recommends the following as a simple, cheap plan of making a syrup for use, we suppose, in ordinary private dispensing practice. Place at the bottom of a beaker or flask a slip of platinum foil, and over it 2 ounces of fine iron wire, then pour in 1 lb. of dilute phosphoric acid, P.B. The iron soon dissolves under the influence of the electric current excited, and the action should be allowed to go on for a day or two, or until the formation of a light blue cloud shows that the acid has formed as much of the salt as it can hold in solution. Then filter through white blotting paper, add 1 ounce more acid, 24 ounces of white sugar, and 8 fluid ounces of syrup of black currants. This will make 3 lbs. of a very pleasant non-styptic syrup, with an average dose of one teaspoonful, and costing altogether (without the platinum foil, which is, of course, untouched) but 2s. Syrup of black currants is very nice, and costs but 3d. a pound. Ordinary iron sulphate, in 1 or 2 grain doses, in this syrup seems as nice and as efficacious as the more popular phosphate.

SOLUBLE PRUSSIAN BLUE.—The usual process for preparing soluble Prussian blue consists in precipitating a ferric salt with an excess of ferrocyanide of potassium, and washing the precipitate on a filter with distilled water until the filtrate begins to show a blue tinge. The precipitate is then dried at a gentle heat. As the manipulation is a long one, M. V. Demandre, a French pharmacist, proposes instead the following rapid and easy process:—

|                              | Drachms.                       |
|------------------------------|--------------------------------|
| Pure Prussian blue           | .. .. .. .. .. 5               |
| Ferrocyanide of potassium    | .. .. .. .. .. 2 $\frac{1}{2}$ |
| Distilled water, sufficient. |                                |

Rub the two salts to a fine powder in a mortar, and add from 2 to 4 pints of distilled water, according to strength desired. After half an hour's contact, with occasional agitation, the clear liquor may be decanted or filtered off from the insoluble portions.—*American Textile Record*.

### MOSQUITO OIL—A PROTECTIVE APPLICATION.—

|                    |                |      |
|--------------------|----------------|------|
| Oil. picis liquid. | .. .. .. .. .. | 3j.  |
| Oil. olivar.       | .. .. .. .. .. | 3j.  |
| Oil. menth. puleg. | .. .. .. .. .. | 3ss. |
| Sp. camph.         | .. .. .. .. .. | 5ss. |
| Glycerini          | .. .. .. .. .. | 3ss. |
| Acid carbolic      | .. .. .. .. .. | 3j.  |

Shake well together.—*Deutsch Am. Apoth. Zeit.*

A NEW LITANY.—District Visitor: "Your boy looks very bad, Mrs. Jones; what's the matter?" Mrs. Jones: "Yes, ma'am, he be very bad; and, what's more, the doctor has made him worse. I'm sure we poor people ought to pray with all our heart, 'From all false doctorin', good Lord deliver us.' I never saw its meaning afore."—*Medical Times and Gazette*.



OFFICE—44A CANNON STREET, LONDON, E.C.

## PRICES FOR 1882.

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5 PER CENT. ON QUARTERLY ACCOUNTS.

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 27 MARGARET ST., REGENT ST.,  
 LONDON:

SEE SEABURY & JOHNSON'S Advertisement of INDIA-RUBBER POROUS AND SPREAD PLASTERS on page 101.

MILLS LONDON 1873 MUMFORD'S PARIS 1875  
**PURE CRUSHED LINSEED**

In 7, 14, 28, 56 lb. and 1 cwt. Bags, 20s. per cwt. net, bag included; delivered free in London, and in Tins, 4s. per doz. **BEST QUALITY; NO OIL EXTRACTED.** Carefully cleaned and ground so as to retain the natural colour of the Seed without being heated.

**MUMFORD'S  
 PURE STARCH POWDER**

Per cwt., net, 28s., delivered free in London in 7-lb., 14-lb., 28-lb., 56-lb. and 1-cwt. Bags.

**MUMFORD'S  
 PURE FULLERS EARTH**

Finest powdered, 16s. per cwt., in 7, 14, 28, 56 lb. and 1 cwt. Packages. Delivered free in London. Samples post free.

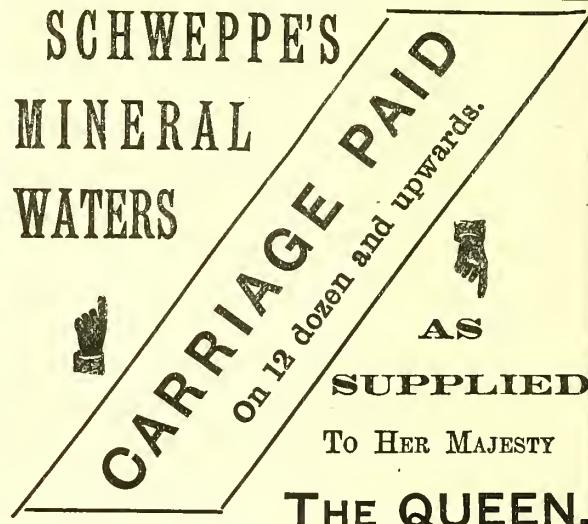
G. S. MUMFORD, STEAM MILLS, FARRINGDON ROAD, LONDON, E.C.

**STEDMAN'S TEETHING POWDERS.**

|                                       |               |                           |
|---------------------------------------|---------------|---------------------------|
| 1/1 size (containing 9 Powders) .. .. | 8/6 per dozen | } less usual<br>discount. |
| 2/9 " 27 "                            | 24/0 "        |                           |
| 4/6 " 54 "                            | 42/0 "        |                           |
| 11/0 " 216 "                          | 11/0 net.     |                           |

A mixed parcel to value 78/ net, at 6/6, 18/, 34/, and 120/ per dozen.

TERMS—Cash with Order. Drugs Packed for the Colonies. Manufactory—125 NEW NORTH ROAD, LONDON, N.



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**SPECTACLES.** } See HENRY LAURANCE'S  
 Advertisement, page 18.

**HAY'S SOLUBLE ESSENCE OF GINGER.** See page 50.

**HAY'S GINGER CHAMPAGNE.** See page 54.

**CHEAPEST CONDY'S FLUID OF ALL.** See page 98.

**TONGA.—IMPORTANT REDUCTION.** See page 68.

**PERFECTED COD LIVER OIL.** See page 20.

**JUJUBES.** See page 20.

**HOMOEOPATHIC MEDICINES (KEEN & ASHWELL'S).**  
 See page 18.

**MAY & BAKER.** See page 2.

**E** DITORIAL **N**OTES.

STATISTICS OF THE EXAMINATIONS  
 AND DR. GREENHOW'S REPORT.

THE statistics given by Dr. Greenhow in his yearly report to the Privy Council on the examinations of the London Examining Board are interesting from various points of view. The report, for example, gives particulars of the failures in the different subjects on which the candidates are examined, and thus far the statistics may be taken as a kind of gauge by which to test the state of pharmaceutical education on the one hand, or of examination stringency on the other. They further open up a beautiful field of speculation as to whether the figures tell in favour of or against a curriculum. Everyone knows the adaptability of figures to almost any side of an argument, and here we can imagine them being applied in so many different directions that the mind of ordinary capacity gets bewildered at the prospect. The percentage of failures, moreover, contains in itself a whole mine of conjecture and theory, into which Dr. Greenhow has not hesitated to plunge, with a host of hot-headed Councillors in full cry after him.

POST FREE  
 WHOLESALE PRICE LIST OF  
**HOMOEOPATHIC MEDICINES.**  
 Mother Tinctures, Pilules, Globules, Sugar of Milk, Medicine Chests, Bottles, Cardboard Goods, and all Sundries connected with the Homoeopathic Business.

**W. Butcher & Co.**  
 WHOLESALE & EXPORT HOMOEOPATHIC CHEMISTS  
 315 REGENT ST., W., AND SPENCER PLACE, BLACKHEATH, S.E.

Dr. Greenhow, for example, in endeavouring to account for the number of failures, says:—

"I have on former occasions pointed out the probable causes of the very large number of rejected candidates at the pharmaceutical examinations . . . They are, as regards the technical examination" (Minor), "their very defective training during the three years passed in a chemist's shop previous to admission for the Minor examination. I learn that many of the candidates for this examination have had only scanty opportunities for practically learning to read prescriptions written in Latin, or to dispense and compound medicines. As a rule, it is only in large towns that there is much demand for dispensing physicians' prescriptions; and when a young man is apprenticed to a master who has not much dispensing work he can neither acquire the intimate acquaintance with the physical characters of drugs and chemicals, nor the practical skill in dispensing, which he requires to fit him for carrying on business on his own account, and which he is expected to manifest in the examination-rooms."

We do not need to quote the endorsement of this view by various members of Council; but the opinion here given, as well as the endorsement, are so decided that it is proper we should examine them, and see what weight is to be attached to them. Now, what are the facts of the case as borne out by the statistics given in the report? We find that during the past year there have been 81 failures in chemistry, 44 in *materia medica*, and only 18 in *practical dispensing*. In other words, four-and-a-half times more are plucked in chemistry, and two-and-a-half times more in *materia medica*, than in practical dispensing, the department on which the major portion of the blame for the excess of failures is here sought to be put. Of course it may be said that in the chemistry department there are more examiners than in any other department, and as a candidate is thrown on failing in one or more subjects, the chemistry examiners have consequently the chance of plucking more than the examiners in other departments. This may hold good, and so far it would equalise the failures, say, in *materia medica*, with half the number of examiners, compared with chemistry; but there is nothing in the argument as applied to dispensing, for, if we mistake not, this department, with half the number of examiners, will face as many candidates as the chemistry, seeing that each examiner can take at least two candidates to the counter at the same time. Nor does the theory fare much better if applied to prescription reading. In this department there have been only about one-third the failures as compared with chemistry, and a little under one-half as compared with *materia medica*. It should be noticed, too, that in both of these departments—that is, in dispensing and prescription reading—the test of the candidate's abilities is somewhat exceptional, and such as, in itself, is sufficient to show that their acquaintance with the practical part of their every-day work is not so scant as is indicated in the report. At the dispensing counter we presume that it is no commonplace mixture or pill or emulsion that the candidate is called upon to make up, but something requiring skill and experience of an exceptional order, such as is only now and again called into operation in the ordinary routine of business. In prescription reading, again, there is a certain sameness in the character of the prescriptions presented at every establishment (with a very few cosmopolitan exceptions), so that the assistants get to be familiar, not only with the calligraphy, but also, to a great extent, with the idiosyncrasies of the writers, and have no difficulty in deciphering them. In the examination-rooms, on the contrary, they have to face prescriptions from every quarter, and in writing totally unknown to them, and, above all, they have to render an English prescription into full and correct Latin. In short, looking at the facts before us in any light we choose, we

find it difficult—we should say impossible—to reconcile them with the theory put forth in the report. The theory is still further discredited if we take the statistics as given in the report referred to, and compare them with those given in the report for the previous year. We find, for example, that while there has been an *increase* last year over the previous year of failures in chemistry to the extent of 14 per cent., and in *materia medica* of 51 per cent., there has been a *decrease* of the failures in dispensing to the extent of 28 per cent., and in prescription reading of 32 per cent. In every department, with the exception of botany, into which the scientific enters, the failures are greatly on the increase, while in those which comprise the every-day practical work and skill of the candidates they are as strikingly on the decrease. In face of these facts, does not the demand for a compulsory curriculum very much resolve itself into a demand that our assistants shall be not so much good practical pharmacists as scientific chemists?

#### A MEDICAL CORONER.

THE question whether persons occupying the position of coroners should be doctors or lawyers has often aroused angry discussions between representatives of the two professions. A medical coroner at Belfast has considerably assisted in the settlement of the difficulty by a display of injudiciousness which could hardly have occurred from a gentleman with a legally-trained intellect. A certain publican in Belfast had gone out one day and visited four chemists' shops, purchasing a quantity of laudanum from each. The man's wife had stated that when he left home he was under the influence of drink, but she said he walked quite steadily, and might easily have been supposed to have been sober. Besides, the fact that he obtained the laudanum at four different shops was a sufficient guarantee of his apparent sobriety. The first chemist called before the jury, Mr. J. P. Henry, gave a perfectly satisfactory statement. He said the man, who looked like a carter, asked for sixpenny worth of laudanum. Mr. Henry asked him what he wanted it for. The man said it was for a horse that was ailing. Mr. Henry then gave him 1½ oz. On this a juror remarked that he thought when laudanum was asked for more inquiries should be made. Mr. Henry explained that he had done more than the law required in making any inquiry at all. The Coroner then took up the discussion, and first stated that the law provides that the name and address ought to have been taken. Mr. Henry said that was not so as regards laudanum, which the Coroner said he was aware of. Instead of apologising for his previous hasty remark, however, he proceeded to abuse Mr. Henry for what he (the Coroner) regarded as deficiencies in the law, a law which, be it remembered, he had but a very imperfect acquaintance with a minute previously, and which he might at least have taken time to study before he began to criticise. Dr. Dill (the coroner) continued in an irritating strain to allude to the trouble Mr. Henry had got himself into, and, we are informed, added some remarks still more injurious than those reported. One observation of his is worth noting. "I have heard of people going into surgeries and not being given more than a pennyworth, and that not full strength." It is not pleasant for a chemist to have to submit to this quasi-judicial abuse for conducting his business in the most strictly legal manner, but, on the whole, and judging from the specimen just quoted, we are inclined to think that Coroner Dill's abuse is preferable to his compliments. It is satisfactory to add that the Belfast journals commented on the Coroner's remarks with a very clear perception of their injustice, while Mr. Henry vigorously defended himself in a published letter a few days

later, so that there is not much actual harm done, unless it be to Mr. Dill himself.

### THE ALIZARINE RING.

THE Turkey-red dyers have been much perturbed of late by the consummate impudence of the makers of artificial alizarine. The discovery of the process for the manufacture of this dye from one of the waste products of coal-tar distillation was made only 14 years ago, but in that short time it has almost destroyed the industry of madder cultivation. Alizarine is made by only one firm in England, and by a few in Germany, the raw material coming almost exclusively from this country. The profits of the patentees and licensees have been enormous. About a year ago the price was raised in a single night from 10*d.* to 1*s.* 3*d.* per lb. Turkey-red fabrics went up a fraction of a penny, and one dyer has stated that the rise in the price of the dye meant to him a loss of 45,000*l.* in one year. The patents for the manufacture of the dye expire in June next, and not many weeks ago the alizarine manufacturers met at Cologne to try and bolster up the constitution and lengthen the life of their goose with the golden egg. They propounded and sent to their customers a Machiavellian circular, which took cognisance of every factor in the case with one exception, and seemed admirably contrived to accomplish the desired object. The one forgotten factor was British independence. Buyers of alizarine were to bind themselves to buy of the present makers at present prices during the whole of 1883 and 1884. They were to buy of no one else, and were to sell no alizarine to others. Any breach of this contract was to subject them to forfeit all the advantages the makers offered. The seductive bait to lure them into this trap was a promise of 5 per cent. discount on all purchases made in 1883, and 10 per cent. on all made in 1884, payable in one sum at the end of that year. If any dyer refused to accept this contract, he was politely but firmly told that he should have no alizarine at all from the makers, and that they had taken care that he should have none from their other customers. Two years' extension of the patent without the expense of application to the Patent Office, two years of guaranteed high prices, two years of freedom from competition, was what these philanthropists expected.

The Turkey-red dyers did not rightly appreciate this. They audaciously assumed that they deserved a share of the golden harvest; so they met, and at once reduced their output. The journals teemed with peppery letters from both sides; the reduction in the consumption of alizarine was so serious, the combination of dyers was so powerful and determined, that in less than a month the alizarine-makers cried *peccavimus*, and promised, like good children, to supply anyone at any time at any price they could get.

It is further noteworthy that this circular has led to arrangements for commencing in England the manufacture of alizarine on a large scale on the day that the patent expires.

### SPURIOUS AND WORTHLESS DRUGS.

THE subject brought before the last meeting of the Pharmaceutical Council by Mr. Williams is one of considerable importance, and it seems to have been discussed in a manner which indicated a full appreciation of its seriousness as well as of its danger. It is not a new fact that rubbish is sometimes sold in Mincing Lane, though we venture to say that it is not very usual for rubbish to bring what would be understood to be "good prices." The majority of the drug buyers, at least of those who continue their occupations, know pretty well what they are buying; and it may be added, too, that though each man is expected

to take care of himself, there is not much attempt at fraudulent deception. But Mr. Williams' case is that it is desirable by some means to protect the trade and the public against these spurious and worthless drugs which are put on the market from time to time. Now in the first place it must be remembered that one of the chief objects of the Pharmaceutical Society has been so to educate its guild that they shall themselves be known as the most competent men to protect the public. It is this personal qualification which all the philosophers of the profession have been insisting on as the anchor of hope for the future. Then, further, it may be said that the danger from these "spurious and worthless drugs" is infinitely less than from drugs of second, third, fourth, or fifth quality. A lie that is half a truth is admittedly more difficult to dispose of than a lie outright. Now, it is in the nature of drugs that they shall shade off by infinitesimal degrees from best to spurious. It is not proposed to deal with any but the very bottom lots, though there does not seem any good logical reason for drawing the line at any particular point. Of course it would be possible to adopt the American system of fixing a standard, and destroying or sending back all drugs which do not come up to that standard. That course might be desirable if England were one vast ladies' school, but if effectually carried out it would instantly upset London as the recognised drug market of the world. It is perfectly well understood that inferior qualities of drugs are quite legitimately bought and sold in London. We have no fear whatever that any such measure will be recommended by the committee of the Council appointed to consider the subject: but it was half suggested, and therefore needs to be dealt with. The Government interposition, which is so fondly looked to by some persons as the omnipotent healer of everything that goes wrong, is in this, as in most other matters, earnestly to be deprecated. It is satisfactory to observe that a good many members of the Pharmaceutical Council are quite sound on this point. The appointment of a committee with the object of obtaining information and exposing frauds is quite unobjectionable; but it is to be hoped that committee will not feel itself charged with a mission to set right whatever it may find wrong. We would also suggest that it should aim to discover what proportion fraudulent dealings bear to total transactions in the drug market, and also whether it is or is not a fact that every druggist can obtain drugs of the highest standard whenever he is resolved to have none but such.

### CHEMISTS FOR NEW ZEALAND.

WE have received a number of letters from various sorts and conditions of pharmacists asking us for details, beyond what have been given in our Australian correspondence, of the demand for chemists and chemists' assistants. Elsewhere we print an advertisement which has been sent to us by a member of the firm of Kempthorne, Presser & Co., of Dunedin, Auckland, Christchurch, and Wellington, who is willing to see or communicate with such chemists as may desire to go out to New Zealand, if they apply within the next week. Mr. Kempthorne does not seem to think that there is much demand for assistants in his colony, and he says none ought to go who have not taken at least the minor qualification here. We gather from him that salaries are rather better on the average than they are among us, and that the cost of living is generally less than it is here. Rent in the chief towns of New Zealand would be quite as high as in towns of the same size in England; clothes would be dearer. Food, on the other hand, is considerably cheaper, meat especially. The climate of New

Zealand varies from a temperature rather above that of London, without fogs, at Dunedin, to the climate of Spain or Madeira at Auckland.

THE *Athenaeum*, in a review of the life of the late Dante Gabriel Rossetti, says that he was in the habit of taking 60-grain doses of chloral at intervals of four hours !

\* \*

A CORRESPONDENT of the *Medical Times and Gazette* is rather rough on the Montenegrins. He says: "I regret to state that after their baptism, the majority of Montenegrins do not often come in contact with water except when it rains."

\* \*

THE following advertisement appeared in the *Liverpool Daily Post* of November 7:—

A Young Gentleman, chemist, good looking, wishes an immediate Marriage with a Lady, with means to start business.—Address, W 54, office of this Paper.

W 54 is perhaps rather deficient in sentiment, but he seems to have some of the sort of stuff in him which goes to make a fair average husband.

\* \*

THE juveniles of the twentieth century are likely to have rather more than their fair share of the enjoyments of childhood. Dr. Constantine Falberg has discovered an "hydro-sulphamin-benzoic acid," which he describes as a white crystalline substance, very soluble in alcohol, but sparingly soluble in water, and characterised by a sweetness so great that the merest trace of the alcoholic solution in water gives it a distinctly sweet taste. Dr. Falberg estimates that it possesses more than 20 times the sweetness of cane sugar. Should further researches prove that it is wholesome and obtainable, sugar will have to make up its accounts.

\* \*

WE understand that two or three of the "advanced" section of the Pharmaceutical Council are thinking of getting up a meeting of chemists and druggists of London and the suburbs, with the view of discussing a few subjects of interest, such as the curriculum, the chance of obtaining a new Pharmacy Bill, the stores, and other topics. What definite object it is expected to attain is not quite clear. The stores nor any other of the pharmacists' foes have not been affected by any amount of howling hitherto, and we do not hear that any new method of attack is to be proposed. All the same, a conference of the kind suggested would be useful enough in promoting union and clear views.

\* \*

WE have sometimes had occasion to allude to the almost superstitious reverence with which American dentists are regarded in Paris. The chief of them, Dr. Evans, seems to be "gold-filling" on a scale beyond all previous experience. He has lately prosecuted his secretary, an Englishman named Williamson, whose business it was to receive the fees. Williamson had a salary of 160*l.* a year, and Dr. Evans has only lately found out that for ten years past he has been embezzling out of the fees as much as 4,000*l.* a year. The judge questioned Dr. Evans as to the extent of his wealth, and the jury found extenuating circumstances for the secretary, who was sentenced to imprisonment for three years.

\* \*

THAT America should turn out such brilliant dentists must be particularly traceable to the free trade system which prevails there. The *Louisville News* says the qualifications for a dentist there are, a hard grip and a strong arm; anything for instruments, from a shoemaker's nippers or a blacksmith's tongs to a monkey-wrench; a diagnostic skill (not always possessed) sufficient to ensure the differentiation of the decayed tooth from a sound one standing next to it; and a total indifference to human agony.

\* \*

A FEW days ago we called on a wholesale pharmaceutical firm and were invited into the private office. The door opened on an abode of luxury, which, notwithstanding its studiously quiet tone and some degree of incompleteness,

revealed an artistic taste manifest down to the smallest detail. The floor was nearly covered with a Persian carpet and an Indian rug, the walls were in beautiful harmony with a Lin-crusta dado in black and oak, a dark green granite cloth above, and a hand-painted frieze of classic design. The furniture included a grand bookcase, several cabinets, desks, and chairs all of special design in unpolished English oak, and on the walls were several choice works of American art. Speaking-tubes to various parts of the offices and works were at the hand of the principals, and a mantelpiece of classic design and chandeliers for the electric light were partly fitted. The occupants of this unique room are Messrs. S. M. Burroughs and H. S. Wellcome, who, by vigorous enterprise and the introduction of various valuable pharmaceutical preparations, have established a very extensive and expanding business throughout this country and the colonies. The last sentence somewhat anticipates actual facts, as Mr. Burroughs is at present travelling round the world on the business of the firm.

\* \*

THE curious dispute between the Corporation of Brighton and the *Lancet*, consequent on some unfavourable comments made by that journal on the drainage of the fair queen of watering places, has ended without the appeal to a legal tribunal which had been so loudly threatened. Apart from our affection for the town and for the paper, in which we are blissfully impartial, we cannot help regretting that the interesting fight did not come off. Our knowledge of precedents is but limited, but we are inclined to doubt whether any exist for charging a journal with libelling a town. If such a charge could be maintained what an income some places such as "grimy Sheffield" and "smoky Birmingham" could make. Some of the London districts could almost pay their rates out of legal damages thus acquirable. But Brighton would have found it hard to prove that not a drain in all its wide expanse ever gave forth a disagreeable odour to a *Lancet* contributor; harder still to prove, perhaps, that the honest journalist did not comment on the odour from the deep-seated sense of duty on which the *Lancet* claims to have ever acted. The *Lancet* seems to have made its peace with Brighton by printing an enormously long report "on your beautiful town," which had been drawn up for the Corporation by Dr. Richardson. The Brighton people seem to agree perfectly with Dr. Richardson's conclusions; and so does the *Lancet*. Which of the parties is abandoning its position? We confess we have neither time nor inclination to investigate this point. Dr. Richardson's enquiry cost Brighton, it is said, 535*l.*

\* \*

A CORRESPONDENT sends us a recent copy of the *Scottish Banking and Insurance Magazine, Financial Record, Economist, and Railway Review*. The banking, railway, and financial news which this sixpenny monthly puts before us is as nearly as possible *nil*, and might have been all compiled by an editor quite untainted with the guile of the Stock Exchange, and unversed in the mysteries of the money market. But, to make up for a lack of news in its own special sphere, this presumptuous organ assumes a sort of omniscient oversight over other businesses respecting which it seems to be as ignorant as of that which it titularly professes to superintend. It is publishing a series of articles on "Trickeries of Trades and Professions," and No. 11 of this series is the chemist and druggist. We are asked to reprint this clumsy libel for the amusement of chemists and druggists generally, but we confess that we fail to see where the fun comes in. The article is neither true nor smart in any sense. It is evidently the work of a novice even at penny-a-lining, and we see no necessity for honouring him with a supposition that his rubbish could amuse or irritate our readers. The chemist and druggist is represented as drawing his 1,000 per cent. on the medicines he supplies; as the "base panderer to the depraved appetites" of the opium or chloral taker; as the reckless participant in the crime of vitriol throwing; as the assistant to the abortionist; and as the general supporter of the quack and the empiricist. Messrs. Birrell & Co., of 10 North St, David Street, Edinburgh, appear to be the responsible publishers of this stupid production, which proves this one thing if no other, namely, that there remains one other trade or profession—the journalist, to wit—whose trickeries and ignorance have yet to be fathomed and exposed.



AND

## Literary Notes.

*A Dictionary of Medicine, including General Pathology, General Therapeutics, Hygiene, and the Diseases peculiar to Women and Children.* By various writers. Edited by Richard Quain, M.D., F.R.S. London: Longmans, Green & Co.

DR. QUAIN'S Dictionary of Medicine, just published, is no doubt the most important medical work of the year. It is a thick volume of 1,816 pages printed in double columns. The whole range of medical, but not surgical, practice, is discussed within reasonable limits in this volume. The articles are the work of 158 separate contributors, comprising most of the leaders of the profession, and generally, no doubt, each writer has been selected for his special knowledge. Dr. Quain himself contributes some of the articles, and must have had besides a massive work to perform in framing all so as to obtain uniformity of style and plan. Besides, there are innumerable cross references and short paragraphs which had to be inserted to make the dictionary complete. The articles contributed are all signed. The result is a volume of monographs on the various subjects treated, generally by the most competent authorities. The symptoms, diagnosis, and pathology generally of every disease seem to be very fully discussed. Treatment both medical and hygienic is indicated sufficiently for the information of the educated practitioner, and where necessary, with a good deal of detail. But it must be understood that this work is not a compilation of recipes, and often the kind of treatment is only suggested, leaving the selection of the particular form and dose of the medicine to the discretion of the practitioner. We can imagine that this work, conveying as it does the most thorough and the latest knowledge of pathology and therapeutics, will be of extreme value to the multitude of practitioners in this country and in the colonies, who can thus in a general way consult the best authority on whatever case he may have in hand.

*The Family Physician. A Manual of Domestic Medicine by Physicians and Surgeons of the Principal London Hospitals.* London: Cassell, Petter, Galpin & Co. 21s.

THE issue of this work in monthly parts has now been completed, and the whole forms a volume of 1,050 royal octavo pages which we can confidently recommend to chemists both for their own perusal and perhaps for sale on their counters. The larger part of the work consists of chapters on various diseases. The information is sound, and is conveyed in a manner which makes the study of the book a pleasant occupation. There are supplementary sections on nursing, on the indications of disease, on domestic surgery, on hygiene, and on *materia medica*. The book is as free from medical pomposity on the one hand as it is from any taint of quackery on the other. It has evidently been written by men acquainted with medical practice, but who are not afraid to tell the public as much as can be comprehended by persons of ordinary common sense without a special technical education.

*First Aid to the Injured. Five Ambulance Lectures by Dr. Friedrich Esmarch, Professor of Surgery at the University of Kiel, &c.; translated from the German by H.R.H. Princess Christian.* London: Smith, Elder & Co. 1882. P. 10 + 100.

WE believe it is Oliver Wendell Holmes who tells of a young surgeon engaged to attend a duel. One of the principals was shot in the thigh, the femoral artery being severed. Hours afterwards, when help reached the spot, the wounded man was found at the point of death, deluged in blood. The young surgeon was kneeling at his side, ghastly pale, with his thumbs buried in the thigh, compressing the artery *below the wound!* His patient died, and he shot himself that night. Both lives would have been saved by a little more knowledge. Such a case is almost unique among surgeons, but among the common people it is knowledge that is rare.

The preface to this little book tells us that the translator herself attended the ladies' classes of the Windsor centre of the St. John's Ambulance Association, and felt the want of a more detailed account of the work aimed at than was supplied by the notes made at the time. Such a want Professor Esmarch's lectures seemed to supply.

We strongly recommend all chemists to seize any opportunity that presents itself of attending Ambulance lectures. Before last winter no less than 40,000 persons of both sexes had done so, and we may suppose that the fashion has set in.

If no classes are available it will be well to study this book. There are hints in it which may be of priceless value at any moment. Much will of course be familiar to every well-read pharmacist, but the treatment of the subject is here complete up to the prescribed limit, and its mastery will give confidence obtainable in no other way.

One useful hint is that indiarubber bandages, such as elastic braces or belts, are better than anything else as tourniquets. They must be bound round and round the limb, each coil increasing the efficiency, while a single coil is sure to loosen.

Chemists are advised to keep ready an ointment containing one per cent. of thymol for use in burns.

*Onguent Égyptiac.* Par le Prof. N. Gille. (Extrait du *Journal de Pharmacie d'Anvers.*) Anvers. 1882.

ONGUENT ÉGYPTIAC, known in England as "Egyptiacum" or "Mel Egyptiacum," must be less used here than even in Belgium. It is known to some at least of our readers to be compounded of honey, vinegar, and verdigris. Professor Gille's treatment of the subject fills nineteen pages, and leaves a few questions still open. The preparation seems to be first named by Meses more than a thousand years ago. The Belgian Pharmacopœia of 1858, and the new edition now in the hands of the Government, order 5 parts of verdigris, 7 of dilute vinegar, to be boiled with 14 of clarified honey. The yield is about 13 parts—considerably less than the weight of the honey and verdigris. The vinegar is entirely driven off during the process of manufacture; it is not enough to convert the whole of the verdigris into neutral acetate, but it acts as a carrier, hastening the reduction by the honey of the copper salt to cuprous oxide and metallic copper. The reaction commences in the cold but proceeds rapidly at 70° C., the cuprous hydrate formed being wholly converted into red cuprous oxide at 100° C. Even before this temperature is reached there is a violent evolution of carbon dioxide, the source of which is not clearly known.

This preparation is intended as an escharotic, and the basis of honey being soluble, each application can be easily washed off, and the state of the wound inspected. But the interaction of the ingredients destroys all the caustic effect of the verdigris, and slight variations in the mode of preparation make great differences in the result. In Belgium it has been almost entirely replaced, during the last thirty years, by Solleysel's Egyptiacum, made according to the subjoined formula:—

|                        |    |    |    |    |    |    |    | Parts. |
|------------------------|----|----|----|----|----|----|----|--------|
| Verdigris              | .. | .. | .. | .. | .. | .. | .. | 240    |
| Powdered zinc sulphate | .. | .. | .. | .. | .. | .. | .. | 240    |
| " litharge             | .. | .. | .. | .. | .. | .. | .. | 240    |
| Arsenious acid..       | .. | .. | .. | .. | .. | .. | .. | 8      |
| Honey                  | .. | .. | .. | .. | .. | .. | .. | 1,000  |

Heat together the first three ingredients with the honey till they turn red. Add the arsenious acid when cold.

*Practical Chemistry; Analytical Tables and Exercises for Students.* By J. Campbell Brown, D.Sc. (Lond.), &c. Second edition. London: J. & A. Churchill. 1882.

THIS is a carefully-arranged set of exercises of a thoroughly experimental character, beginning with solutions of the salts of the alkali metals, and going on to such compound radicles as are usually dealt with in elementary works on analysis. The rare elements are not entirely overlooked, and the author has very judiciously introduced a table for the analysis of gases, and one giving the chief characteristics of some commonly-occurring neutral substances, sugars, &c. This book is sure to prove of considerable value in the laboratory, and we can strongly recommend it to the student of analytical chemistry.

*Notes on Poisons: A Toxicological Chart, designed for Ready Reference.* By J. Mayne, M.D., &c. 1s. 6d.

THIS is a mounted and varnished aggravation. Bad spelling, which may be the fault of the printer, and worse English, which certainly is not, are two of its most striking characteristics. It is evidently intended for professional readers, as the Latin names of the poisons are generally the only ones given. We are told the scientific names of the bee, gadfly, gnat, hornet, scorpion, and wasp, as well as several fish; and in a paragraph in small type, which seems to belong to the heading "Cantharides," we read the following:—"Fish of considerable variety, when under certain (diseased) conditions. Crustaceous [!], cetaceous [! !], and others, amongst which the following have become familiar," meaning, we suppose, that the fish named are sometimes poisonous. In one column we are told that camphene is "a product of turpentine, q. v. in cl. 4"; in Class 4 not a word is said about turpentine, but we read, "Camphene (the radicle of Camphor)."

With such profusion of information that a man does not want when he is suffering from poison we might expect convenience of reference and completeness of detail in more important matters. The chart is classified, and it is necessary to know to which class your poison belongs before it can be found. Such poisons as bichromate of potassium, iodine, phosphorus, arnica, laburnum, petroleum, cyanide of potassium, fungi—all of which have caused deaths, recorded in our columns, during the last six months—are not even mentioned. And yet the author must put in such a paragraph as the following: "Ourari (supposed to come from bark of a convolvulus species).—Fabulous expletives [sic] are reported regarding its origin—for example, that its essential is the venom proper to a serpent! &c. Its alkaloid is said to be twenty times stronger than the foregoing; and has been described by M. Bernhardt; it is named *eurore*." Eight more lines are used to tell us to suck the wound, but not a hint is given about treatment when the poison is taken internally.

If the subject were not so serious, its treatment by the author would be amusing.

*Diet for the Sick.* By J. J. Ridge, M.D., &c. Second edition. London: J. A. Churchill. Pp. 54. 1s. 6d.

THIS consists of a collection of eighty-one recipes for various foods, drinks, and enemata often required for sick persons. The observations on the preparation of such diet coming from a practical physician adds to the value of the formulæ.

*A Compendium of Modern Pharmacy and Druggists' Formulary.* Fourth edition. By Walter B. Kilner, Springfield, Illinois, U.S. London: H. Kimpton. 28s.

MR. KILNER dates the preface to his first edition on June 1, 1880. The title-page of his work indicates that it has now reached a fourth edition. Of course, an edition is quite a vague term, but we are not surprised that this book has secured a good degree of popularity, considering the formula-hunger of pharmacists in America as well as in this country. A rather stiff price is asked for the volume, and we think it only fair to inform British readers that a considerable proportion of the formulæ therein collected are never likely to be of much use to them. There are altogether some 2,000 formulæ; of these over 300 are for the favourite American form of medicine—elixirs. There are, besides, a considerable number of formulæ for tinctures, pills, syrups, fluid extracts, and infusions, some of which correspond exactly with those given in the British Pharmacopœia, while many are quoted from the U.S.P. These, of course, would be useless or misleading to a British pharmacist. He hardly wants Kilner's Formulary to tell him how to make tinct. rhei or paregoric. Why these officinal formulæ have been included in the work we do not understand. There is an immense field for the formula collector, and in a work compiled for druggists' use it might be assumed that everyone likely to buy a copy is sure to possess also his national pharmacopœia. But there are, besides, a great many non-officinal formulæ for popular remedies, and also for perfumes, dentifrices, formulas, and all kinds of miscellaneous adjuncts to a drug business. The author has added to his work during the past year quarterly supplements, in which

he collects and classifies such new formulæ as he finds in a diligent search among a number of publications. We observe in this collection several instances of the triumph of vice exemplified by certain formulæ of our own credited to journals which have transferred them from us without proper acknowledgment. We remark some want of care in editing the supplements, which is unfortunate in a work of this character. To take the last only, we note that the indexes are not regularly alphabetical. "Condy's solution" is not a correct title, and Condy's fluid is not a saturated solution of permanganate of potassa; Yvon's chloroform test should not have been published without an additional note as to the abundant proof of its uselessness, which almost immediately followed its announcement; "the above pill" should not have been printed under a formula for a mixture (page 863); "Gumbojie pulv." (page 865); "Aloes socat," "Ipecacunhaæ," "Mustura amygral" (page 866), and many other obvious misprints, make us suspicious when we come across other names, such as "sonorous stearine," which we cannot interpret so easily. Both in selection and supervision Mr. Kilner might give rather better attention for the rather high rate of remuneration at which he appraises his services.

*Synopsis of Chemistry, Inorganic and Organic.* To assist students preparing for examinations. By Thomas W. Drinkwater, F.C.S., &c. Edinburgh: Young J. Pentland. 1882.

THE author states that this book has been drawn up with special regard to the Edinburgh examinations. It is to be regretted that the simple passing of examinations should be the sole object in view in the study of any branch of knowledge, but as a matter of fact it is so, and we have sometimes to take things as they are, and not trouble ourselves about what they ought to be.

The concentration of matter and elimination of everything of an explanatory nature, features peculiar to books of this character, are in this case carried to the utmost extreme. Whether the book will answer the purpose for which it is designed will no doubt be ascertained on trial, but as a means of acquiring a real knowledge of the science we cannot recommend it to the student.

*Elements of Dental Materia Medica and Therapeutics, with Pharmacopœia.* By James Stocken and Thomas Gaddes. Third edition. London: J. & A. Churchill.

BY the fact that their book has reached a third edition, the authors may, we suppose, be justified in their assumption that it has filled a long-felt desideratum. Apart from that evidence, we should hardly have appreciated its necessity. We hardly see what especial need there is for dentists, as such, to learn about the chemistry of the various pharmacopœial preparations, classification of medicines, or general treatment of diseases. If such information is necessary, there are plenty of works existing which provide it more perfectly than this one. The special dental information in this work could have appeared in a book of one-tenth the size, and in such a form would have been much more easily attainable. The section rather ambitiously entitled "Dental Pharmacopœia" contains a few useful formulæ, with a number quoted from the British Pharmacopœia and from some other sources.

*A Companion to the United States Pharmacopœia,* by Dr. Oscar Oldberg and O. A. Wall, is in the press of William Wood & Co., New York. The volume is designed as a ready-reference book for physicians, pharmacists, and students, and is to contain about 300 illustrations.

WE have received from Messrs. R. Friedländer & Sohn, Berlin, two lists of books, the first enumerating books on technology and all its branches: it includes complete sets of many of the most important journals. The second fills 20 pages, with about 35 titles to a page, and contains only books on fungi.

Her Majesty's printers, Messrs. Eyre & Spottiswoode, have given us the first warning of the approach of Christmas by sending us specimens of the Christmas and New Year's cards which they are offering this year. This firm have developed the Christmas-card business into quite an extensive art and industry. They have quite a rétinue of accom-

plished artists on their staff, several ladies being among these. The variety of their stock is immense, this year's assortment exceeding 250 different designs. We judge that their artistic work of this year will surpass their former efforts and secure their position in the trade. They supply cards to sell at prices from  $\frac{1}{2}d$ . to 4s. We may mention here that Messrs. Eyre & Spottiswoode are the publishers of the beautiful coloured photographic views of English scenery which have lately become popular for their beauty and their cheapness.

### Scientific Notes :

*On Chemistry, Pharmacy, Botany, Materia Medica, &c., Original, Selected, and Translated.*

#### ON FORMIC ACID.

A. VOGEL (*Sitzungsber. der Akademie der Wissenschaft.*), Munich, 1882, 315.—Vogel has found that all genuine honey contains free formic acid, and he supposes that this essentially tends to preserve the honey on keeping; in fact, the so called purified honey having the same concentration as the genuine is very liable to ferment, the absence of formic acid in it accounting for this circumstance. The formic acid in honey is derived from the stings of the bees, and amounts to 0.1 per cent. on the average.—*Journ. Soc. Chemical Industry.*

#### REDNESS OF CARBOLIC ACID.

A. SICHA confirms Fabini's assertion that the liability of phenol to turn pink arises from the presence of copper. Phenol, which he prepared by distilling entirely from glass vessels, remained white for months in the sunlight; but when to 50 grammes of this phenol, 10 drops of a solution of copper sulphate (0.10 : 40 H<sub>2</sub>O) were added, the pink colour was formed after six days, and in two months became very intense.—*Casop. Česk. Lékařon*, 1, 49-50, Mai, in *Journ. Soc. Chemical Industry.*

#### PICRIC ACID, A TEST FOR ALBUMEN IN URINE.

IN the *Lancet* (November 4) Dr. George Johnson recommends picric acid, either in powder, crystals, or saturated solution as a delicate test for albumen. He finds that it causes a more visible coagulation than nitric acid does. The urine to be tested must be neutral or slightly acidulated; but he does not find it frequently necessary to acidulate the urine. He recommends that picric should take the place of nitric acid in urinary test cases, and says "with picric acid powder or crystals in one bottle, and Coper and Fehling's test-pellets in another, the most complete urinary test case need contain no other liquid than the spirit in a small tubular spirit-lamp. Dr. Johnson credits the suggestion to his son, G. Stillingfleet Johnson. Subsequently Dr. Johnson writes to the *Lancet* to say that he finds that the same test had been previously recommended by M. Galippe in the French medical journals. Dr. Pary writes to say that he finds a combination of yellow prussiate of potash and citric acid, which, he thinks, deprived of their water of crystallisation and made into compressed pellets, is a more delicate test than picric acid, and in several respects a more convenient one.

#### THE ALLEGED ACID NATURE OF SOME VASELINE.

DR. LENZ, of Münster, in Westphalia, states in the *Archiv. der Pharmacie*, September, 1882, that he has met with samples of vaseline containing sulpho-acids and traces of calcium sulphate. Dr. Lenz examined six samples of vaseline from various sources, and, for comparison, a sample of prepared lard from an apothecary's shop, the results of which are indicated by the amount of NaOH required to neutralise 100 g. of the substance operated on.

The samples of vaseline required respectively 243, 231, 218, 130, 96, and 91 mg. of NaOH, while the sample of prepared lard only required 14 mg.

Such a proportion of acid would be obviously detrimental to the employment of vaseline for therapeutic purposes, and it is therefore agreeable to learn\* that Apotheker

Fulmann, of Fulda, has likewise examined several samples of vaseline, and with very different results, the quantity of NaOH necessary for neutralisation being between 6.64 and 7.6 mg. It also appears, from a private communication made by the former author to the latter since the publication of the article in the *Archiv. der Pharmacie*, that vaseline of more recent manufacture has likewise been found by him to contain considerably less acid than the former samples.

#### PREPARATION OF LEAD PEROXIDE.\*

A. FEHRMANN rejects the usual method of preparing lead peroxide by acting upon a solution of lead acetate with pure sodium carbonate and chlorine gas, and suggests the following as cheaper and better:—

A concentrated solution of lead chloride, at a temperature of 50° to 60°C., is treated with a solution of calcium hypochlorite, until a small quantity of the mixture filtered off ceases to yield a precipitate upon the further addition of the latter reagent. The whole is then filtered off and washed, out of contact with the air.

Lead peroxide thus prepared is quite pure, and appears a nearly black powder, which is best kept in the moist state.

#### STRYCHNINE AND INDOLO.

IN a preliminary paper sent to the *Berichte der deutschen chemischen Gesellschaft*, October 2, 1882, Heinrich Goldschmidt states that when strychnine is melted with 10 times its weight of caustic potash, and a little water in a copper retort, and the mixture then subjected to distillation, first of all a milky liquid, smelling of chinoline, passes over, which is succeeded by heavy yellow drops, which congeal in the distilling tube. This last substance exhibits all the reactions peculiar to indol, and the author hopes, in a further paper, to be able to definitely prove its identity with that body.

#### CANTHARIDIN.†

THE greater part of the cantharidin of Spanish flies is contained therein, combined with ammonium, magnesium, sodium, &c., and but a very small quantity exists therein in the free state. The cantharides are only soluble in water and glycerine, while cantharidin itself is dissolved by alcohol, ether, oils, &c., and is but very slightly soluble in water (30,000 parts cold or 15,000 parts hot water).

When Spanish flies are treated with water alone the cantharides only are extracted, nearly the whole of the free cantharidin remaining behind. When alcohol, ether, oil, &c., alone is employed the reverse is the case.

Ignorance of the above facts has hitherto led to an inadequate method of preparing cantharidin, as well as to inaccuracies in the quantitative determination of that principle.

The cantharides decompose in contact with the air, absorbing carbonic acid, cantharidin being separated out, and probably for this reason fresh insects give a better yield of cantharidin than old ones.

Contrary to the statements of text-books, cantharides dialyse, and E. Dietrich's method of manufacturing cantharidin depends on this property.

The presence of cantharidin is best determined by preparing its potassium salt, decomposing this with sulphuric acid, extracting the cantharidin with chloroform, and evaporating the latter, the remaining residue is then examined under the microscope by polarised light, whereupon, if cantharidin is present, its peculiar crystalline structure is at once revealed.

*Substitution of Cantharidin for Cantharides.*—E. Dietrich's practical experiments as to the amount of cantharidin which would represent a given quantity of cantharides have shown that 1 gramme of cantharidin is equal to 200 grammes of cantharides.

*Directions for Using Cantharidin.*—Cantharidin is triturated with a few drops of ether, acetic ether, or chloroform, this mixture brought into the mass in which the

\* *Berichte der deutschen chemischen Gesellschaft*, October 2, 1882.

† Trade Report: E. Dietrich in Helfenberg, 1882; through the *Pharmaceutische Zeitung*, Oct. 11, 1882.

cantharidin is to be dissolved, and the whole kept at a temperature of 80° C. for half an hour. Cantharidin is very readily soluble in wax, oils, fats, and resins.

Formulae for some preparations in which cantharidin is substituted for cantharides:—

*Collodium Cantharidatum.*

|                |    |    |    |    |    |    | Kilo. |
|----------------|----|----|----|----|----|----|-------|
| Pyroxylin      | .. | .. | .. | .. | .. | .. | 0.010 |
| Ether          | .. | .. | .. | .. | .. | .. | 0.200 |
| Spirit of wine | .. | .. | .. | .. | .. | .. | 0.035 |
| Castor oil     | .. | .. | .. | .. | .. | .. | 0.005 |
| Cantharidin    | .. | .. | .. | .. | .. | .. | 0.001 |

*Emplastrum Cantharidum Ordinarium.*

|                   |    |    |    |    |    |    | Kilo. |
|-------------------|----|----|----|----|----|----|-------|
| Cantharidin       | .. | .. | .. | .. | .. | .. | 0.001 |
| Prepared suet     | .. | .. | .. | .. | .. | .. | 0.100 |
| Yellow wax        | .. | .. | .. | .. | .. | .. | 0.400 |
| Oil of turpentine | .. | .. | .. | .. | .. | .. | 0.100 |

*Emplastrum Cantharidum Perpetuum.*

|                   |    |    |    |    |    |    | Kilo. |
|-------------------|----|----|----|----|----|----|-------|
| Colophony         | .. | .. | .. | .. | .. | .. | 0.500 |
| Yellow wax        | .. | .. | .. | .. | .. | .. | 0.500 |
| Oil of turpentine | .. | .. | .. | .. | .. | .. | 0.370 |
| Pine resin        | .. | .. | .. | .. | .. | .. | 0.330 |
| Prepared suet     | .. | .. | .. | .. | .. | .. | 0.200 |
| Cantharidin       | .. | .. | .. | .. | .. | .. | 0.001 |
| Euphorbium powder | .. | .. | .. | .. | .. | .. | 0.069 |

*Unguentum Acre.*

|                   |    |    |    |    |    |    | Kilo. |
|-------------------|----|----|----|----|----|----|-------|
| Yellow wax        | .. | .. | .. | .. | .. | .. | 0.060 |
| Colophony         | .. | .. | .. | .. | .. | .. | 0.120 |
| Oil of turpentine | .. | .. | .. | .. | .. | .. | 0.240 |
| Prepared lard     | .. | .. | .. | .. | .. | .. | 1.000 |
| Cantharidin       | .. | .. | .. | .. | .. | .. | 0.001 |
| Euphorbium powder | .. | .. | .. | .. | .. | .. | 0.010 |

*Unguentum Cantharidum.*

|             |    |    |    |    |    |    | Kilos. |
|-------------|----|----|----|----|----|----|--------|
| Cantharidin | .. | .. | .. | .. | .. | .. | 0.005  |
| Olive oil   | .. | .. | .. | .. | .. | .. | 4.000  |
| Yellow wax  | .. | .. | .. | .. | .. | .. | 2.000  |

**IMPERMEABLE COURT PLASTER.\***

A KIND of court plaster, bearing the name *emplastrum impermeable russicum*, has been of late introduced into the market, which exhibits a white enamelled skin, made adhesive on one side by a layer of isinglass.

The skin removed from the latter was found to consist of a mixture of collodium, zinc oxide, and castor oil.

This impermeable court plaster may be made by mixing collodium with sufficient castor oil to render it elastic when dry, the oil having been previously rubbed up with some zinc oxide. By dipping glass plates into this mass and allowing the film formed to dry on them, and then re-dipping and re-drying two or three times, a film of suitable consistency would be obtained. This, painted over with a strong solution of isinglass and dried, would complete the operation.

**BROMINE BLOCKS FOR DISINFECTING PURPOSES.†**

ON the occasion of the meeting of the German Apotheker Verein in Berlin, in Oct. last, a very interesting and important lecture was given by Dr. Frank, of the Starsfurt Bromine Works, on "A Convenient and Safe Method of Employing Bromine for Disinfecting Purposes," from which we select the following:—

It is not long ago that deodorisation and disinfection were considered identical, the discovery that the germs of a number of dangerous diseases are not perceptible to the organs of smell, being of a comparatively recent date.

Modern discovery has shown that deodorisers, like sulphur (sulphurous acid), which have been in use from time immemorial, are by no means, in all cases, at the same time disinfectants. A true disinfectant must absolutely destroy the infectious germs.

It has long been known that bromine is a disinfectant in the true sense of the word, but from its irritating effect on the respiratory organs and caustic nature in general, its employment has hitherto remained in abeyance. Dr. Frank claims to have overcome this difficulty.

By incinerating diatomaceous earth, such as is employed in the manufacture of dynamite, together with the tartrates of sodium or potassium, or even crude tartar, on the one hand, or with the saccharates of calcium on the other, a porous siliceous mass is obtained hard enough for cutting into suitable forms, which is at the same time so porous that it is capable of absorbing 8-10th of its volume of fluids. A cube of this substance with a capacity of 45 c.c. weighs 30 grammes, admits of being charged with 100 g. of bromine, and thus charged may be handled without the slightest inconvenience. Blocks of this kind, the number being regulated according to requirement, placed in the upper parts of rooms to be disinfected, Dr. Frank asserts, effect the disinfection very completely, while, owing to the very gradual evolution of their bromine, the most delicate lungs remain unaffected. The blocks, when exhausted, admit of being redosed *ad infinitum*.

At the close of the lecture Dr. Frank showed that ordinary petroleum is a prompt and efficacious remedy for bromine burns. By putting first his finger in a bottle containing bromine and then rubbing it with petroleum, after a few moments very little was to be seen of the effects of bromine upon his finger. Dr. Frank stated that this discovery was made by accident. A workman in the Starsfurt Works having had the misfortune to break a carboy containing 60 of bromine, the contents of which were poured over his body, in his fright caught hold of a carboy of petroleum which happened to be standing near and drenched himself with its contents, and to his and everyone else's surprise this completely saved him.

**ALUM WATER FOR EXTINGUISHING FIRES.**

M. L. B. DUMAS, member of the French Academy of Sciences, has discovered that water saturated with alum has superior value in extinguishing fires—a value supposed to be due to the coating it gives to objects wet with it, which prevents contact with the oxygen of the air, and thus diminishes the rapidity of the combustion. Experiments are to be made by supplying the firemen of Paris with instruments to throw it, and the Minister of the Interior has recommended that the firemen of the French communes or towns be supplied with facilities to use such solutions of alum.—*Le Monde de la Science.*

**TINCT. CAMPH. CO.**

AT the November evening meeting of the Pharmaceutical Society, Mr. J. Bland contributed a note on a difficulty which he had had with this tincture. He said:—"By a little care in the manipulation, the whole of the oil of anise should be soluble in the proof spirit directed by the Pharmacopœia, as was shown by Mr. Ince in an early volume of the *Pharmaceutical Journal*, and until about the time of the issue of the first British Pharmacopœia I had no trouble in getting a satisfactory solution. Since then I have found that a great part of the oil of anise separated, and although the deposit could by the aid of the powdered opium be readily filtered out, it was yet evident that a part only of the oil of anise was contained in the finished tincture.

"After many failures to account for this result, it struck me that the oils of *Pimpinella anisum* and *Illicium anisatum*, though similar, might not be identical; and this proved to be the case.

"In the London Pharmacopœia, the oil of *Pimpinella anisum* alone is official, and is stated by Phillips to be sometimes 'adulterated' with oil of star-anise; the British Pharmacopœia recognises both oils as official, and, from the difficulty I had in procuring an authentic sample of the former oil, I infer that practically the whole of the oil of aniseed of commerce is derived from star-anise.

"Whether the chemical and therapeutical properties of the two oils are identical perhaps requires further investigation, but considering the statements that have been made as to the poisonous properties of the oil of the *Illicium religiosum*, and the comparative insolubility of the oil of star-anise in

\* Trade Report: E. Dietrich, in Helfenberg, 1882, through the *Pharm. Centralhalle*, October 12, 1882.

† *Pharmaceutische Zeitung*, October 21, 1882.

proof spirit, I would suggest that the oil of *Pimpinella anisum* should be preferred for medicinal use."

In the discussion that followed the reading of the paper

Mr. Holmes said that he had found there was a difference in the solubility of the two oils, though not a very great one. Oil of anise became solid at a little above 50° Fahr., whereas star-anise oil remained fluid down to nearly 35° Fahr., a difference that could be easily observed in winter.

Mr. Gerrard said it had been with him an exception and not the rule to find a separation of the oil of anise from tinct. camph. co.

Professor Redwood thought that as the oil of star-anise was preferred, the practice might be more common than they were aware of, namely, of giving to the ordinary oil of star-anise a resemblance to the oil of anise by dissolving in it a small quantity of spermaceti.

Mr. Allen had prepared an essence of aniseed containing more oil of anise than the tinct. camph. comp., with a much smaller amount of spirit, and with that his experience was that during the summer it was perfectly soluble, but when the winter came there was an appearance through the liquid of a most remarkable series of apparently iridescent crystals.

Mr. Bland remarked in reply that the only sample of oil he had met with in five or six years which gave a bright solution in the proportion of half a drachm to a pint of proof spirit was one which, he was informed, was distilled from Russian fruit. He had observed that star-anise was not so attractive to rats and mice as the oil of *Pimpinella anisum*.

### Personalities.

DR. HORACE DOBELL has retired from London practice, and has taken up his residence at Bournemouth.

THE Professorship of Botany in Oxford will shortly become vacant, Mr. Lawson, its present occupant, having been appointed superintendent of the Government cinchona plantations at Madras.

MESSRS. JAMES ROBINSON & Co., of Oxford Hill, Norwich, have purchased the old-established business of Mr. W. C. Clowes, at Attleborough, Norfolk, and conduct it in conjunction with their Norwich business.

MR. WALTER R. HADWIN, of Highbridge, whose prosecution for refusal to have his child vaccinated we mentioned some time ago, has been again considered by the guardians. Having prosecuted him three times, they now decide to leave him unmolested in the future.

THE *St. Louis Druggist* states that Mr. Mitchell Henry, M.P., has derived his fortune from his interest in a Manchester patent medicine house, Messrs. F. & W. Henry, we presume, of calcined magnesia renown. Mr. Henry was formerly surgeon to the Middlesex Hospital, and now owns a large estate in Connemara.

MR. ARTHUR H. COX, the head of the firm of tasteless pill manufacturers, has been chosen Mayor of Brighton. We are sorry to learn that he has been compelled to postpone his inaugural banquet until next month on account of a severe attack of gout, from which he is only slowly recovering.

MR. ALDERMAN E. G. HARWOOD, who has just been elected Mayor of Bolton, was a chemist and druggist in Bolton for many years. He retired from the business some 12 years ago, and has since taken an active part in the Town Council, though not losing his interest in and sympathy with the trade.

THE following chemists and druggists are also among the mayors for the forthcoming year:—Mr. J. H. Jones for Denbigh, Mr. Henry Durden for Dorchester, Mr. John Horsley for Hartlepool (re-elected), Mr. Henry Badcock for Lymington, Mr. W. Weaver for Oswestry (re-elected), and Mr. J. Whitwell for Peterborough.

ANOTHER ENCOURAGEMENT TO SAVERS.—In paying dividends the Bank of England never pays fractions of a penny. From this source the accumulations amount at present to no less than 143,000*l.*, which sum, by a recent Revenue Act, is to be paid into the Exchequer.

### Obituary.

DR. G. W. SEPTIMUS PIESSE, PH.D.

WE regret to have to record the death of the genial principal of the house of Piesse & Lubin, the perfumers, of Bread Street.

George William Septimus, seventh child of the late Charles A. J. Piesse, chief clerk in the War Office, was born on May 30, 1820, and died on October 23, 1882.

His early education was limited to such as is generally within the power of a grammar school to impart, but his taste for scientific amusements drew him on to study the science of optics as a serious occupation, and notwithstanding the fact that he served no manner of apprenticeship, he started life as a practical optician. Want of capital, however, prevented his business from being extended as his ambition required, and we see him a few years later as pupil to Professor Graham, attending the lectures of that eminent chemist at University College. As a student he made his mark and secured the friendship of his teacher—a friendship which remained unbroken up to Dr. Graham's death.



Pursuing the study of chemistry, he subsequently practised as an analytical chemist, and for a time with considerable success, but, professional occupation falling off, he again turned his attention to trade, and entered the house of Messrs. J. & E. Atkinson. A few years later an offer by Mr. Breidenbach of higher remuneration induced the subject of our memoir to secede from Messrs. Atkinson and enter upon new services with the late Mr. Breidenbach, with whom he remained for some years.

Mr. Piesse was an adept in the art of conjuring, and a skilful prestidigitateur, a power which was the means of putting him finally upon the road to fortune, inasmuch as it brought him into contact with the gentleman with whom he founded the firm of Piesse & Lubin.

In the art of perfumery he opened up a new era by Angloising it; before his time, perfumes, like gloves, were considered below par unless foreign names were used in their identification. He, as do all men of original ideas, met with acrimonious criticism bordering upon abuse. He lived it down, however, and to-day *Kiss-me-Quick* perfume is considered no more vulgar than "Parfait Amour" liqueur, or a song entitled "Kiss me once again." He endeavoured for many years to promote the cultivation of perfume-bear-

ing plants in the British colonies, and succeeded in inaugurating numerous extensive experiments, which are still in progress. His earlier hopes in this direction were greatly buoyed up by his trust in the power and influence of his elder brother Charles, who then held an important office in the Colonial Office, but whose premature death doomed those hopes to be blighted.

He was one of the earliest associates of the Chemical Society, before whom he read several original papers. He was the author of many well-known works, amongst others "The Art of Perfumery," "Piess's Magic," "Laboratory of Chemical Wonders," "Twenty Letters on Farming" are from his pen, and he contributed the articles on perfumery and kindred industries to all the important cyclopedias, and for a period of about five-and-twenty years wrote the "Scientific and Useful" column in the *Family Herald*.

ALLCHIN.—On November 1, Mr. Alfred Allchin, pharmaceutical chemist, England House, Primrose Hill Road, London. Aged 58 years. Mr. Allchin had been a member of the Board of Examiners for the past twelve years. He was the youngest son of Mr. W. H. Allchin, surgeon, of East Malling, and after serving an apprenticeship with Mr. Stedman, of West Malling, he lived with Mr. Poole, of Queen Square, Brighton, and Messrs. Keating & Co., of St. Paul's Churchyard. In 1848 he commenced business in Richmond Road, Barnsbury, and removed to Primrose Hill Road in 1870.

BREFFIT.—Mr. Edgar Breffit, Alderman of the ward of Cheap, died on October 18 at his residence, the Glebe, Lee, after a long illness. The deceased, who was in his 73rd year, was the proprietor of the Aire and Calder Bottle Company's works, in Upper Thames Street and Ratcliff, and at Castleford, in Yorkshire. In 1865 he entered the Corporation of London as a member of the Court of Common Council for Dowgate Ward, of which he eventually became the deputy alderman. In 1875, in the mayoralty of Mr. Alderman Cotton, M.P., he served the office of Sheriff of London and Middlesex, his colleague being Mr. Alderman Knight, the present Lord Mayor. On the death of Mr. Alderman Allen, in 1877, the electors of Cheap Ward thrice elected Sir John Bennett as their alderman, but thrice the Court of Aldermen vetoed their choice, and ultimately they selected Mr. Breffit for the vacant gown, which he held till his death. He was chairman of the Scarborough and Whitby Railway Company, and of the Gun and Shot and Griffin's Wharves Company.

CAPE.—On October 20, Mr. John Sweet Cape, chemist and druggist, High Street, Exeter. Aged 41 years.

CROSSLEY.—On October 1, Mr. Edmund Crossley, chemist and druggist, Princess Street, Bury. Aged 54 years.

DASHWOOD.—On October 6, Mr. James Dashwood, chemist and druggist, Fratton Street, Portsmouth. Aged 27 years.

DRINKWATER.—On September 23, Mr. Thomas William Drinkwater, chemist and druggist, Pollard Street, Manchester. Aged 50 years.

FACEY.—On October 7, Mr. John Facey, chemist and druggist, Woodwell Crescent, Bristol. Aged 42 years.

GARDNER.—On September 23, Mr. Thomas Gardner, chemist and druggist, Queen Street, Morecambe. Aged 37 years.

HUMPHRIES.—On September 17, Mr. Edgar Humphries, chemist and druggist, Garston, Liverpool. Aged 34 years.

INGLIS.—On October 10, Mr. Herbert Inglis, chemist and druggist, Every Street, Manchester. Aged 42 years.

JOHNSON.—On October 4, Mr. Francis Johnson, chemist and druggist, Kentish Town, N.W. Aged 63 years.

MICHIE.—On September 23, Mr. James Michie, chemist and druggist, High Street, Forres. Aged 65 years.

PARKER.—On October 24 Mr. William Emsley Parker, chemist and dentist, in his 21st year. Mr. Parker had served an apprenticeship with Mr. G. W. Pratt, chemist and dentist, 49 Cavendish Street, Chorlton-on-Medlock, Manchester. Being consumptive, he had started on a voyage in the s.s. *Gerarda*, a vessel of Shields bound for Genoa, the owner of the vessel being a friend of Mr. Parker's family. After being at sea for only 48 hours, the *Gerarda* collided off the

Isle of Wight with the *Benares*, a large ship sailing from Calcutta for Glasgow. Nine men on the *Gerarda* were lost, including Mr. Parker. The deceased was a very studious and promising young chemist.

POTTER.—On August 27, Mr. William Potter, chemist and druggist, Fleckney, near Market Harborough. Aged 79 years.

RICHMOND.—On October 20, Mr. Robert Richmond, pharmaceutical chemist, Leighton Buzzard. Aged 67 years.

TAYLOR.—On September 13, Mr. Clement Taylor, chemist and druggist, St. John's Road, Sevenoaks. Aged 62 years.

TEASDALE.—On September 19, Mr. Thomas Teasdale, chemist and druggist, Goultgreave, Derbyshire. Aged 53 years.

THOMAS.—On October 23, Mr. Morgan Thomas, chemist and druggist, Taff's Well, near Cardiff. Aged 42 years.

WILSON.—On September 2, Mr. Gaudern Wilson, chemist and druggist, Crowland, Lincolnshire. Aged 68 years.

## Metropolitan Reports.

EMBEZZLEMENT.—On October 17, at the Central Criminal Court, Sheridan David Pasley, 37, accountant, was sentenced to five years' penal servitude for embezzling several sums of money and cheques belonging to his employers, Jeye's Sanitary Compounds Company, Cannon Street, London.

THE CHEMISTS' ASSISTANTS' ASSOCIATION.—A meeting was held on November 8, the President (Mr. Wrenn) in the chair, when a paper on "Subnitrate of Bismuth" was read by Mr. F. H. Alcock. The communication consisted of a summary of the examination of a few commercial specimens, together with notes on the history, literature, synonyms, modes of preparation, physical and chemical characters, impurities, and the modes of dispensing it. Methods were given for the detection of the more important impurities, and also a tabulated list of results of the examination of five samples. Reference was specially made to the variability of acidity in this compound, together with the various microscopic forms and chemical formulae. In a good discussion which followed, the President remarked that much impurity of this salt was due to the inferior kind of nitric acid used. He also observed that the chloride found in some specimens was derived from the calico, which ought to be well washed before being used to drain precipitate on. Messrs. Thompson, Winfrey, Braithwaite, Woods, Millhouse and Palmer also took part in the discussion. The next meeting was announced for November 15, when a paper on "Wild Flowers and their Relation to Insects" will be read by Mr. Cracknell.

## Provincial Reports.

### ABERDEEN.

NEW PHARMACEUTICAL SOCIETY.—Resulting from the general meeting of chemists held at Aberdeen on June 28, 1882. The committee appointed to carry out the resolutions have resolved—

That to include chemists at Aberdeen, the existing "Aberdeen Society of Chemists and Druggists" be in future styled "The Aberdeen and North of Scotland Society of Chemists and Druggists," and that it be conducted under the rules and regulations of the said existing society.

The annual subscription is fixed at 10s. 6d., and the objects of the society are said to be to promote pharmaceutical education, be a bond of union among the chemists of the district, a means of strength in the event of any subject of importance being brought forward, and promoting the interests of the chemists of the district generally. Mr. A. Strachan, of Richmond Street, Aberdeen, is the secretary.

### AIRDRIE.

EXPLOSION OF AMMONIA.—On October 10, James Boyle, jun., 17 years of age, a furnace-filler or engine-keeper, residing at Calderbank, was severely burned on the face,

head, and arms, by an explosion of ammonia at Monkland Ironworks. He took a lighted lamp to examine a pipe through which the ammonia runs, when the material exploded.

## BELFAST.

A CORONER ON THE SALE OF LAUDANUM.—On October 20 Dr. Dill, borough coroner, and a jury, held an inquest at the Royal Hospital concerning the death of Thomas Thompson, a publican, who was admitted to the hospital on the previous Tuesday, suffering from the effects of an overdose of laudanum, and who died on the Friday following. Grace Thompson, wife of the deceased, deposed that her husband was 48 years of age. He had been in very poor health lately, and occasionally complained of a lightness in the head. The deceased left home between two and three o'clock on Tuesday last, but she did not know where he went to. The next thing she heard about him was from a policeman, who came and told her that he was in the Royal Hospital. Witness went there and saw him, but he was quite insensible. When leaving home he was under the influence of drink. He took a naggan in the morning, a glass and a half glass some time afterwards. He appeared as though he was in the "horrors" the night previous, and did not sleep any. Witness endeavoured to prevent him from going out on Tuesday, but he went away in spite of her. He had often gone out under similar conditions previous to that.

John Patrick Henry, chemist, 97 Donegall Street, stated that on Tuesday, about three o'clock, a man whom he believed to be the deceased came into his business establishment, and asked for sixpence worth of laudanum. Witness inquired what it was for, and he said for a horse that was ailing. The deceased then got a bottle with an ounce and a half of laudanum, and witness labelled it "laudanum—poison," with his name and address. Witness thought from the appearance of the deceased that he had something to do with the management of horses. The deceased had not the slightest appearance of having taken drink. Witness did not consider it necessary to inquire the name and address.

A juror thought that when such a dangerous thing as laudanum was asked for there should be more inquiries made than had been done by the witness.

Witness: I did more in the matter than the law directs, for I not only labelled the article, but inquired the purpose for which it was intended.

The Coroner: But the law provides that you should take the name and address of the purchaser.

Witness: Excuse me; it does not in the case of laudanum.

The Coroner: I know that, but it is a great mistake not to do so.

Witness: But the taking of his name and address would not have prevented this man from committing the act that he did. There are plenty of druggists in Belfast, and he had only to get a pennyworth in a number of them and he would have had as much as he wanted.

The Coroner: I am sure that intending suicides abroad in the neighbourhood of Belfast will be thankful to you for the information you have given.

Mrs. Thompson recalled, stated that the deceased walked quite steadily when he left the house on Tuesday. A stranger might have thought he was sober.

The Coroner said, when Mr. Henry went the length of asking the man's name he might have gone further, as the asking for such a quantity of laudanum looked very suspicious.

Mr. Henry: I thought I did all that was necessary; I had no idea that the laudanum was intended for any other purpose than that told to me.

The Coroner: Would you do the same thing again?

Witness: I would rather not sell laudanum at all.

The Coroner: I wish you never had sold it. If you had not done so you would not have got into trouble.

Witness: The man was as sober-looking as any of the jury are this minute.

The Coroner: The only point in the matter is the selling of such a quantity to a stranger without making yourself thoroughly acquainted with the purpose for which it was intended. My impression is that the law should be a little more stringent than it is with regard to a drug like laudanum. I have heard of people going into surgeries and not being given more than a pennyworth, and that not full strength.

Witness: If I would mix it I could be prosecuted.

The Coroner: As you say yourself, you would rather not sell laudanum, and I wish you did give it up, for there are too many in Belfast dealing in this poison.

In reply to a juror, the wife of the deceased stated that her husband was in the habit of taking laudanum in penny-worths to produce sleep, as when he was drinking he never got any rest at night. He slept none during the two nights preceding Tuesday last.

Robert Campbell, druggist, 15 Bridge Street, stated that a person named Thompson received 1½ oz. of laudanum in his shop between three and half-past three o'clock on Tuesday. Witness took his name and address, which he gave correctly. He said he wanted the laudanum for a horse. There was nothing in his appearance that could lead one to believe that he was under the influence of drink.

The Coroner: What made you ask him for his name and address?

Witness: I always make it a point to take the names and addresses of persons receiving ½ oz. of laudanum or anything beyond that.

The Coroner: Did you ever sell anything like this for a horse before?

Witness: Yes; I have often, and have known a horse to get 2 oz.

In reply to a juror, Mrs. Thompson stated that she never heard her husband threatening to commit suicide. He was a little annoyed about the sale of a house that he had lost some money over, and was occasionally depressed in spirits.

Evidence as to finding the deceased apparently dying in an hotel, and that of a police constable who found four bottles all labelled "laudanum" on him was also given. The house surgeon at the hospital said deceased died from congestion of the lungs.

The Coroner said he was not at all satisfied that the deceased took the laudanum with any suicidal intention. He was in an unfit state to take care of himself, and appeared to have fallen back on the old idea of the pennyworth of laudanum to produce sleep. To his (the Coroner's) mind, the man did not know what he was doing.

Dr. Barron said that was his impression also.

The Coroner having summed up the evidence,

The jury returned a verdict to the effect that death resulted from congestion of the lungs, accelerated by heavy drinking and the excessive use of laudanum.

## GLASGOW.

SERIOUS ACCIDENT IN MAKING FURNITURE-POLISH.—On Nov. 6 Mrs. Willox, wife of David Willox, manufacturing chemist and experimentalist, of Parkhead, Glasgow, was making furniture-polish in the absence of her husband. The principal ingredient is turpentine, and when she was about to add this liquid the contents of the vessel boiled over. With the view of saving the contents and preventing the spread of fire, she withdrew the vessel. In the hustle the turpentine was unhappily upset, and coursed through the kitchen, followed by a train of fire. Mrs. Willox tried in vain to put out the flames, and she, as well as her five children, who clung to her, were severely burned about the arms and body. Mr. Willox, who was in his shop, forced his way into the house. He, too, was severely burned. Assistance was rendered by the neighbours, and ultimately the family were taken to the infirmary, where one of the children died in the night.

## LEEDS.

POST-OFFICE ROBBERY.—R. S. Smith (19), chemist, assistant to the late Mr. Stead, was charged at the York Winter Assizes, on November 4, with stealing a postal order for 20s. Sentence was deferred.

## LONGTON.

LIME WATER AND THE SALE OF FOOD AND DRUGS ACT.—On November 9 Mr. John Lichfield, chemist, High Street, was charged with selling lime water, which was not of the strength required according to the provisions of the statute. Major Knight produced the analyst's certificate, which showed that instead of the lime water containing 0·56 grain of lime per ounce, it only contained 0·1 grain per ounce. Defendant explained that the cost of the lime required was so very small as to preclude the idea of any

motive in the amount therein being too little, but which had come about in consequence of an accidental exposure thereof to the atmosphere. He had always made lime water of the proper strength. The magistrates said they quite thought it had been done by an act of carelessness, and not with any intent on defendant's part, and inflicted a fine of 5s. and cost.

#### LIVERPOOL.

THE THEFT OF OPIUM.—Herbert William Tarleton Bailey, clerk, aged 63, whose committal for trial on the charge of stealing 151 lbs. of opium was noticed last month, was brought up at the Liverpool Sessions on the 6th inst., and was sentenced to 18 months' imprisonment, to be followed by five years' police supervision.

#### LEICESTER.

A NICE CUP OF TEA.—A week or two ago, two children, respectively aged six and four, the property of a chemist at Leicester, were missing in the middle of the day. An unusually pungent odour being observed to issue apparently from one of the cellars, a search was instituted resulting in the discovery of the two truants, busily engaged. They had climbed upon some cases and reached down a number of bottles, the contents of which they had poured into a box. They comprised 2 pint bottles of collodion, three of iodising solution, a 1 lb. bottle of chloroform, and a pint bottle of prussic acid of Scheele's strength. When interrogated as to the nature of their occupation, they replied that they were playing at making tea. With the exception of the elder one looking pale for a day or two, fortunately no evil resulted.

#### PLYMOUTH.

IMPUDENT ROBBERY.—In September we reported the case of a sailor named Clarke, who on a Sunday afternoon entered the shop of Mr. R. J. Hifley, chemist, Cobourg Street, and, after striking Mr. Hifley violently in the face, attempted to steal his watch and chain, and knocked a number of bottles from the counter on to the floor. At the Plymouth Quarter Sessions, held on October 13, Clarke was sentenced to imprisonment for six months with hard labour.

#### SHEFFIELD.

##### SHEFFIELD PHARMACEUTICAL AND CHEMICAL SOCIETY.

AT a meeting of this Society on October 11, Mr. Preston, president, in the chair, a paper was read by Mr. Furness on "Our Trade and Professional Interests."

Mr. Furness commenced his remarks by referring to the composite nature of the business of a chemist and druggist, and defined it as a mixture of the professional and trade elements, in which the latter greatly predominated. The trade element had been and was being assailed on all sides, and the dealing in a number of articles which used to lie almost exclusively in the chemist's hands had now been diverted into other and possibly more legitimate channels. But chemists could not be so indifferent now that the trade in drugs, patent medicines, specialties, sundries, dietetic articles, &c., was so seriously threatened. Simple articles, such as salts and senna, had long been supplied by small shopkeepers in villages and other places; but these persons had generally maintained the prices, and moreover the public had been able to recognise the superior quality of the articles sold by chemists. But now the trade was grievously assailed by large grocers, drapers, and "stores," who supplied patent medicines, and specialties, and nine-tenths of the Pharmacopeia, and even in some cases made arrangements to dispense prescriptions and deal in poisons at reduced prices. With respect to patent medicines and similar articles the public could not be expected to pay 25 or 30 per cent. more at one shop than they would at another a few yards off, but it was not to the interest of chemists to sell these articles at cost price. It was, however, useless to look to the Government, the Pharmaceutical Society, or the Trade Association for the remedy of this vexed state of things. Chemists must rely upon their individual tact and learning to supply the income lost in this direction, and must rely upon their collective strength and exertions to destroy the trust the public had acquired for patent medicines. Chemists had made this trade assume the dimensions it had. They had recommended these

"patents," kept them in stock, distributed hand-bills, exhibited show-cards, lent their windows for gratuitous advertisements, and now, having established them thus firmly, were entirely ignored, saving when some new enterprise was endeavouring to secure public favour. But the same means that had been instrumental in building up this trade could be used in combating the evil, and if the proprietors would not help to maintain the interests of chemists they must combine to help themselves. As to the sale of drugs, there were many of the articles and preparations in the British Pharmacopeia which were not absolutely poisonous, but the supply of which still required supervision by a responsible person. This was illustrated by a case which had come under the speaker's notice, where a solid had been supplied for "sil volatile," and the buyer told to take two teaspoonfuls, resulting in the inconvenience attending the swallowing of about two drachms of carbonate of ammonia; and by another case where nitrate of potash had been supplied for Epsom salts. He was of opinion that the supply to the public of all the chemical and Galenical preparations, the mineral and animal substances and the majority of the vegetable products in the British Pharmacopeia, as well as the dispensing of prescriptions, ought to be exclusively in the hands of chemists and druggists, and he wished to see an amendment of the Pharmacy Act in this sense. It could easily be demonstrated that such an alteration would be for the public benefit, and it would be simple justice to a respectable and deserving body. This end could be best attained by joining the local associations, supporting the Trade Association, and influencing the constitution of the Council of the Pharmaceutical Society, both of these last-mentioned bodies possessing great influence if they could only be got to work in the proper direction.

#### STOKE-UPON-TRENT.

WILLIAM HOLLIS, chemist, has been charged with the wilful murder of a woman who died two days after he had treated her to procure abortion.

#### Trade Notes.

WE have received a new catalogue of all kinds of bottles from Messrs. Kilner Brothers, of King's Cross, London. The illustrations accompanying the price-list make the catalogue very useful for the chemist and druggist to refer to.

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THE advertisement of a French firm, Messrs. Lelasseur & Co., appears for the first time in this journal, offering to supply mustard leaves with the pharmacist's own name on advantageous terms.

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THE works and business of the late firm of Thomas Bell & Co., chemical manufacturers, New Abbey Mills, Stratford, London, have been acquired by Thos. Bell & Co. (Limited). The directors of the new concern are Thomas Bell, R. Berk, and Daniel H. Wysmuller.

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FER BRAVAIS.—The property in the Fer Bravais and Quinquina Bravais has been transferred to a Paris company "en commandite" under the style of Boutron & Co., with a capital of two millions of francs. M. A. Boutron, the manager, is a pharmacien.

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MESSRS. EVANS, SONS & Co. are supplying to those of their customers who stock Savar's specialties, some pocket card calendars with voluptuous summer and winter scenes, richly produced in gold and colours, for gratuitous distribution.

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THE CARRIAGE OF ETHER.—A firm of chemical manufacturers understand that the railway companies will now carry small consignments of ether preparations not exceeding 28 lbs. net at a special rate; larger quantities being still carried at a minimum rate as for 1 ton gross.

AT the meeting of the Sanitary Institute of Great Britain, held last month at Newcastle-on-Tyne, all the leading filter-makers were represented; but the only award made was to the Silicated Carbon Filter Company, of Battersby, who received a certificate of merit for silicated carbon filters.

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MESSRS. BRATBY & HINCHLIFFE, of Manchester, have just issued an illustrated catalogue of soda-water machinery and of the appliances used in the manufacture of mineral waters, which does the firm the highest credit. The book consists of 104 large quarto pages. The illustrations are beautifully produced, and the descriptions are clear and complete. The introductory remarks show that the firm are well alive to the requirements both of persons entering the trade as well as of those already engaged in it. Some other machinery, besides soda-water apparatus simply, is illustrated and priced in this book. We notice ice machines, tincture-presses, scales, and, of course, the various forms of engines.

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LOEFLUND'S PURE HORDEUM MALT EXTRACT.—Messrs. Loeflund & Co., of Stuttgart, whose malt extract has acquired the highest reputation in English as well as in German lands, have now established a special dépôt in London at 148½ Fenchurch Street, and we understand that they intend to push their business very vigorously. The preparation is now entitled "Pure Hordeum Malt Extract." It is a preparation which must commend itself both for flavour and appearance, and, as it is prepared in vacuo, it may be relied on to contain the highest attainable proportion of diastase. It is put up in a new style, and Mr. Loeflund has devoted much science, skill, and capital in his endeavour to produce the best possible article. His preparation is a most satisfactory and reliable one.

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IMPORTANT TO CREDITORS OF LIMITED LIABILITY COMPANIES.—A letter was printed in the *Manchester Examiner* of October 17 narrating the history of the liquidation of a certain limited liability company of that city, and signed by four large creditors. The company failed in 1875; the creditors state that they believe the statement of one of the managers that 12s. 6d. in the pound might easily have been paid if the estate had been liquidated by some one acquainted with the business; but that the affairs being put in the hands of an accountant appointed by the Court of Chancery, without any consultation with the creditors, 4s. 6d. in the pound only was paid. The liquidator also informs some dissatisfied creditors who asked for accounts, that he is not required to furnish them except to the Court of Chancery; and this, it appears, is correct law. Any new Bankruptcy Bill should modify this kind of procedure.

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THE Horners' Company have recently held a successful exhibition of articles manufactured from horn, at the Mansion House. Combs are the chief articles of home manufacture sold by chemists, and of these a handsome exhibit was made by Messrs. S. R. Stewart & Co., of Aberdeen, and Queen Victoria Street, E.C. Of these the Court of Assistants reported:—"This firm did not compete for prizes, and Mr. David Stewart gave his very valuable assistance as one of the judges. Amongst their productions may be noticed the fine, clear horn deprived of all adipose matter, rendering it nearly as transparent as glass; whilst the imitation tortoise-shell for high back combs, used for supporting the black-lace mantilla worn by the ladies in Spain and South America, deserves a special word; they are most beautifully carved in geometrical devices, and are in themselves works of art. The dark buffalo, ox, and cowhorn for shoehorns and drinking-cups, and the pure white dressing-combs (in imitation of ivory) are also worthy of inspection. The case exhibited by this firm is altogether an interesting one, and had they competed for prizes would undoubtedly have met with a well-merited success."

STRAW HOUSES.—A large block of warehouses is to be built in Chicago of straw lumber. This new material consists of straw pulped and compressed by hydraulic pressure. It is as strong as timber, as easily worked, and much less combustible.



[The following list has been compiled expressly for THE CHEMIST AND DRUGGIST by G. F. Redfern, Patent Agent, 4 South Street, Finsbury, London, and at Paris and Brussels.]

Applications for Letters Patent:—

**Administering Alimentary Fluids, &c.**—No. 4999.—L. A. V. Pellegrin, of Toulon-sur-Mer, France. An improved apparatus for the administration of alimentary fluids and semi-fluids, and for other purposes to which the said apparatus is applicable. Dated October 20, 1882.

**Beverages.**—No. 5021.—J. Prosser, of the Cedars, Portland Avenue, Upper Clapton, London. An improved compound or combination of ingredients for admixture with wines and spirituous liquors to be used in combination with essences, syrups, or the like, as an aerated or non-aerated drink. Dated October 21, 1882.

**Beverages.**—No. 4964.—Agnes Mary Hogg, of Scarborough, Yorkshire, and Mary Gingell, of High Ongar, Essex. Improvements in beverages. Dated October 18, 1882.

**Bi-carbonate of Soda.**—No. 4692.—A. W. L. Reddie.—A communication from B. T. Babbitt, of New York. Improvements in the process of, and apparatus for, the manufacture of bi-carbonate of soda. Dated October 3, 1882.

**Bottle-envelopes.**—No. 5127.—A. W. Abrahams, of Notting Hill, London. Improvements in bottle-envelopes or appliances for protecting glass bottles from injury when packed for carriage, and in securing the said envelopes to bottles. Dated October 27, 1882.

**Bottles.**—No. 4848.—E. P. Hawkiss, of Holborn Viaduct, London. Improvements in or relating to bottles or receptacles for mucilage, liquid blacking, or other liquids or semi-fluids. Dated October 12, 1882.

**Bottles, &c.**—No. 4909.—F. Foster, of 23 Forston Street, Hoxton, London. Improvements in screw-neck bottles or jars, and in stoppers for same. Dated October 16, 1882.

**Brushes.**—No. 5109.—E. Parr, of Long Lane, and J. R. Gibson, of St. Paul's Road, Camden Town, both in London. Improvements in brushes for curative purposes. Dated October 27, 1882.

**Chloride of Lime.**—No. 4984.—G. W. von Nawrocki.—A communication from C. Opl, of Kruschau, Austria-Hungary. Improvements in the manufacture of chloride of lime. Dated October 19, 1882.

**Cleaning Fat Oils, &c.**—No. 5044.—F. C. Glaser.—A communication from H. Schlinck, of Ludwigshafen-on-the-Ru, Baden. Proceeding of cleaning fat oils and fats. Dated October 23, 1882.

**Concentrating Sulphuric Acid.**—No. 4709.—A. J. Boult.—A communication from J. Gridley, of Brooklyn, New York, United States. Improvements in the process and apparatus for concentrating sulphuric acid. Dated October 3, 1882.

**Cork Extractor.**—No. 5159.—A. Olsson, of Sandviken, Sweden. Apparatus for drawing corks from bottles. Dated October 30, 1882.

**Distillation.**—No. 5032.—J. Jamieson, of Akenside Hill, Newcastle-upon-Tyne, consulting chemist. Improvements in dry distillation. Dated October 23, 1882.

**Dye.**—No. 4772.—W. E. Aykroyd, of Bradford, Yorkshire, dyer. A new compound used in dyeing. Dated October 7, 1882.

**Extracting Constituent Principles of Fatty Bodies.**—No. 4733.—W. H. Beck.—A communication from C. Violette and A. Buisine, both of Lille, France. A new and improved process for the integral extraction of the constituent principles of fatty bodies. Dated October 4, 1882.

**Extracting Sediments.**—No. 4885.—G. Bacher, of Kladno, Austria. Improvements in the process of periodically or continuously extracting or removing sediments or precipitates of all kinds during and without interrupting the sedimentary, precipitating, or clarifying process, and in the presence of the fluid from which the said sediment or precipitate is being formed, and in apparatus to be employed in connection therewith. Dated October 14, 1882.

**Fatty Matter**—No. 4992.—F. C. Glaser.—A communication from Dr. O. Braun and Dr. O. Liebreich, both of Berlin. A new and improved manufacture of fatty matter from wool fat. Dated October 20, 1882.

**Filling and Corking Bottles.**—No. 4908.—A. Macdonnell, of Newry, Ireland. Improvements in machinery or apparatus for filling and corking or stoppering bottles. October 16, 1882.

**Filters.**—No. 4794.—E. Edwards.—A communication from N. A. B. Chevalot, of Paris. Improvements in filtering apparatus. Dated October 9, 1882.

**Galvanic Batteries.**—No. 4878.—G. C. Holmes, of Sussex Place, and S. H. Emmeus, of Argyll Street, both in London. Improvements in galvanic batteries. Dated October 13, 1882.

**Filters.**—No. 5008.—F. G. Lynde, of Melton Mowbray. Improvements in filters. Dated October 21, 1882.

**Flax Flour.**—No. 4785.—G. G. B. Casero, of Rue St. Charles, St. Etienne France. An improved process of treating flax-seed or linseed, whereby a novel product is obtained—that is to say, a flour of seed of flax unalterable. Dated October 7, 1882.

**Hydrogen Gas.**—No. 4855.—S. Pitt; a communication from W. H. Bradley, of New York. Improvements in apparatus and process for the manufacture of hydrogen gas. Dated October 12, 1882.

**Ice.**—No. 4817.—T. Dowrie, senior, of Port Said, Egypt. Improved means and apparatus for the production of clear or transparent block ice moulds. Dated October 10, 1882.

**Lint.**—No. 4156.—G. W. Von Nawrocki.—A communication from M. Salomonson, of Bielefeld, Germany. A new method for producing a lint from new flax fibres. Dated October 12, 1882.

**New Product from Coffee-beans.**—No. 5034.—H. J. Haddan.—A communication from E. Charnaux, of Vichy, France. A process for the manufacture of a new product from coffee-beans. Dated October 23, 1882.

**Obtaining Ammonia.**—No. 4758.—J. and J. Addie, both of Glasgow. Improved means of obtaining ammonia from furnace-gases. Dated October 6, 1882.

**Obtaining Salts contained in Mineral Waters.**—No. 4987.—A. J. Boult.—A communication from E. Kuhn, of Clermont Ferrant, France. Improvements in the method of obtaining or recovering the salts contained in mineral waters, and in the subsequent applications thereof. Dated October 19, 1882.

**Preventing Sea-sickness.**—No. 4699.—G. M. Tagore, of Collingham Road, South Kensington, London. Improvements in means for the prevention of sea-sickness. Dated October 3, 1882.

**Purifying Coal-gas.**—No. 4641.—C. F. Claus, of Mark Lane, London, chemist. An improved process for the purification of coal-gas, and obtaining ammonia and ammoniacal and other compounds therefrom. Dated September 23, 1882.

**Regenerating Sulphur.**—No. 4678.—W. Weldon, of Reade Hall, Burstow, Surrey. Improvements in regenerating sulphur from alkali waste. Dated October 2, 1882.

**Separating Glycerine.**—No. 5112.—J. Imray.—A communication from C. E. Poullain, E. F. Michaud, and E. N. Michaud, of Paris. A new or improved process for separating glycerine from fatty matters. Dated October 27, 1882.

**Sheep Washes, &c.**—No. 4949.—B. Nickels, of Leadenhall Street, London, analytical and technical chemist. Improvements in the manufacture of fluids and compositions for washing sheep and other animals; applicable also for destroying insects upon plants, and for protecting submerged surfaces from fouling. Dated October 18, 1882.

**Sheep Washes, &c.**—No. 4970.—W. G. Little, of Heckington Hall, near Sleaford, Lincolnshire. Improvements in the manufacture of compounds suitable for use as a sheep wash, and as an insecticide for agricultural and horticultural purposes. Dated October 18, 1882.

**Stopping Bottles, &c.**—No. 4635.—N. Thompson, of Brooklyn, New York, United States. Improvements in stoppers for bottles, jars, and other hollow articles. Dated September 29, 1882.

**Surgical Appliance.**—No. 5028.—H. Parson, of the Firs, Guildford, Surrey. An improved surgical appliance for use in cases of fractured patella. Dated October 24, 1882.

**Treating Isinglass.**—No. 4808.—C. Vaux, of Doncaster. Improved solutions for the treatment and utilisation of isinglass for clarifying beer or other liquids, also applicable for other purposes. Dated October 9, 1882.

**Trusses.**—No. 4934.—H. J. Haddan.—A communication from L. Barrère, of Sauternes, France. Improvements in trusses. Dated October 17, 1882.

**Vaporisers.**—No. 4826.—P. Chapelain, of Paris, perfumer. Improvements in vaporisers. Dated October 11, 1882.

**Washing Bottles, &c.**—No. 4904.—W. W. Horner, of Oak Cottage, Dulwich. A new or improved machine for washing, rinsing, and draining bottles, jars, and like articles. Dated October 14, 1882.

Specifications published during the month:—

Postage 1d. each extra.

1882.

795. H. Knight. Producing a fixed white pigment for painting, &c. 4d.

798. H. C. F. Störmer. Recovering soda used in making wood pulp stuff, &c. 6d.

805. B. J. Biug. Artificial teeth. (Not proceeded with.) 4d.

809. F. O. Ross and A. S. C. Buxton. Water filters. (Not proceeded with.) 4d.

812. W. H. Beck. Solid lye composition for washing and bleaching linen. 4d.

814. C. D. Abel. Colouring matter for dyeing and printing. 4d.

829. J. and J. Addie. Obtaining ammonia from furnace gases, &c. (Not proceeded with.) 2d.

835. C. J. Mountford. Asbestos paint. 4d.

921. J. Dempster. Manufacture of sulphate of ammonia. 6d.

923. H. E. Newton. Filter presses, 4d.

924. H. E. Newton. Lined valve-cases, &c. 6d.

952. C. D. Abel. Compression-pumps for compressing ammoniacal gas. 8d.

957. G. E. Vaughan. Spinal support. 4d.

960. J. A. Dixon. Production of certain derivatives of metaoxybenzaldehyde. 4d.

954. C. D. Abel. Apparatus for the production of ice. 6d.

961. F. W. Boldt and F. C. Vogel. Machinery for capsuling bottles. 6d.

1027. J. Beresford. Stands or frames for cruchs, liquors, &c. 6d.

1183. G. W. Von Nawrocki. Corkscrews. 4d.

2278. H. H. Lake. Manufacture of oxide of lead. 4d.

2479. J. S. Davison. Stoppers for bottles, &c. 6d.

2921. W. H. McLaughlin. Preparations for masking the nauseous taste of medicines. 2d.

1012. C. J. Hutchings. Machine for labelling tins, boxes, &c. (Not proceeded with.) 2d.

1014. J. G. Tongue. Producing caustic barium and strontium from the sulphates. 8d.

1030. C. D. Abel. Colouring matters for dyeing and printing. 4d.

1034. C. D. Abel. Galvanic chalcis. 4d.

1035. W. W. Macvey and R. Sykes. Stoppering bottles. 6d.

1042. M. Jordan and A. Egestorff. Manufacture of wood pulp. (Not proceeded with.) 2d.

1048. S. H. Johnson. Filter-presse. 6d.

1058. J. Morris. Process for the production of aluminium. 4d.

1095. W. G. Stripe. Filter-presse. 6d.

1127. J. Imray. Antiseptic material for the preservation of flesh and other animal matter. 2d.

1133. A. Clark. Stoppers for bottles, &c. 6d.

1153. M. Zingler. Substitute for guttapercha. 4d.

1156. J. Mactear. Manufacture of soda and potash. 2d.

1165. T. Marshall. Appliance for cleansing the tubes of feeding-bottles. 6d.

1167. G. C. Trewby. Purification of gas, &c. 4d.

1178. A. M. Clark. Heating in chemical and manufacturing operations. (Not proceeded with.) 2d.

1182. J. T. Hayes. Apparatus for bottling aerated waters. 6d.

1185. S. Pitt. Clarifying syrups and other fluids, &c. 4d.

1217. N. J. Holmes. Bleaching vegetable fibres, textile fabrics, and liquids. 2d.

1220. C. Wigg. Manufacture of chlorine. 4d.

1227. Emma Louisa Loxton. Paste for use in washing linen, &c. (Not proceeded with.) 2d.

1258. E. Chabot. Treating diseases of the throat, lungs, and chest. 6d.

1266. J. H. Johnson. Manufacture of artificial indigo. 4d.

1277. J. and J. Addie. Obtaining valuable products from furnace-gases. (Not proceeded with.) 2d.

1290. D. Dawson. Production of a scarlet colouring matter upon vegetable or silk fibre, &c. (Not proceeded with.) 2d.

1290. H. A. Bonneville. Process for manufacturing sparkling grogs, &c. (Not proceeded with.) 2d.

1291. H. A. Bonneville. Fruit-flavoured alcoholic beverages. 4d.

1297. J. Imray. Manufacture of printed fabrics. 2d.

1314. R. Morton and C. G. Williams. Manufacture of coal-gas. 2d.

1315. W. F. Sweetland. Manufacturing condensed milk, &c. 4d.

1317. H. Kaltwasser. Application of ornamental devices to metallic capsules. (Not proceeded with.) 2d.

1346. C. M. Taylor. Bottles, capsules, and stoppers. 6d.

1377. W. Young and G. T. Beilby. Producing ammonia from coal, &c. 1s. 3d.

1389. F. A. Bonnefui. Apparatus for filtering liquids, &c. 6d.

1393. F. B. Rawes. Obtaining sulphur, &c. 8d.

1394. H. M. Knight. Chest-expanding corset. (Not proceeded with.) 2d.

1396. G. J. Andrews and F. H. Parker. Materials for the purification and deodorisation of sewerage, &c. 4d.

1406. W. J. Golroyde. Corkscrews. 2d.

1403. F. Kingston. Instrument to facilitate the administration of fluids in the stomach. 4d.

1420. R. P. Pictet. Manufacture of ice for domestic use. 6d.

1429. T. C. Woldsworth and J. Wolstenholme. Raising and forcing acids, chemicals, &c. 6d.

1438. H. Barrett. Stoppers for bottles. 6d.

1445. W. Sprunger. Separating cellulose from fibrous plants, &c. (Not proceeded with.) 2d.

1450. H. H. Lake. Syphon bottles for aerated beverages. 6d.

1453. J. Dixon. Production of colouring matters. 4d.

1460. C. D. Young. Apparatus for producing transparent block ice. 6d.

1461. E. Turpin. Manufacture of explosive compounds, &c. 4d.

1506. J. J. Coleman. Apparatus for making ice by means of cold air. 6d.

1534. A. Beaus. Treatment of grain for use in brewing. 4d.

1567. E. Kunkler. Concentrated milk. 4d.

3333. H. J. Haddan. Apparatus for making ice. 6d.

3443. W. R. Warren. Medical battery. 4d.

# Exchange Column.

**TERMS.**—Announcements are inserted in this column at the rate of one halfpenny per word, on condition that name and address are added. Name and address to be paid for. Price in figures counts as one word.

If name and address are not included, one penny per word must be paid. A number will then be attached to the advertisement by the Publisher of THE CHEMIST AND DRUGGIST, and all correspondence relating to it must be addressed to the "Publisher of THE CHEMIST AND DRUGGIST, Colonial Buildings, Cannon Street, London, E.C.," the envelope to be endorsed also with the number. The Publisher will transmit the correspondence to the advertiser, and with that his share in the transaction will cease.

**Deposit of Money.**—In order to ensure safety we offer the following system:—The purchaser of anything advertised in the Exchange Column may remit the amount to us. We shall acknowledge receipt to both parties by post-cards, and shall only pay it away on the advice of the remitter. Whether returned to him or paid to the seller, we charge a commission of 6d. on any transaction of 3d. or less, or 1s. if above that amount.

## Dental and Surgical.

One dozen pairs Toomes-pattern forceps in mahogany case, good condition, price 21s. 5s.

"B. A." 25 High Street, Gosport.

Several dozen double trusses for sale, 15s. per dozen; all in good saleable condition. S. Parker, 360 Leeds Road, Bradford.

Dentist's lathe and mahogany workbench combined, Fletcher's ingot-mould and blow-pipe, Fletcher's hot-blast blowpipe. 103 High Street, Wandsworth.

To Dentists. For sale 2 lbs. pink rubber, 7s. per lb., cost more than double; also, about half the usual price, 200 odd pin-teeth, 3s. per dozen; 500 diatotic teeth, 1s. 9d. per dozen; owner given up. Mr. Bond, Pritchard Street, Bristol.

For Surgeons. Two complete sets of 12, with excisors, in very good condition, to be sold cheap. Also a few filling instruments, hottles, &c., and Fletcher's gas soldering-stand. Apply to Mr. Ward, Dentist, 428 Oxford Street, W.

**Bargains.**—Hardy vulcaniser, holds 2 flasks, 20s.; thermometer, 6s. 6d.; set of 8 tooth forceps, 21s.; 2 Gartrell's patent flasks, 5s. each; 2 24 x 5-gr. pill machines, 17s. each; 2 plaster spatulas, as Maw's fig. 87, 1s. 8d.; quantity of dentist's impression trays, various patterns; Lever's "Vectis," 5s. 6d., worth 10s.; 2 metal sounds and silver female catheter, 6s. 6d.; case surgical instruments; capital turning lathe. Lodge, Chemist, Rotherham.

## Drugs and Chemicals.

One lb. oleum cubeba; what offers? Bordass, Driffield.

12 oz. quinine, unbleached; 12 oz. cinchon. mur., cheap. 22s. 19.

About, 14 lbs. best vanilla marc, also a quantity of intensely hot and bright red capsaicin oil. Enclose three stamps for sample. Hay, Chemist, 4 Regent's Terrace, Hull.

28 lbs. cream tartar, 3 lbs. bismuth subnit., 4 lbs. hyd. ox. rub., 2 lbs. calomel, 2 lbs. hyd. perchlor., 2 lbs. hyd. ammoniat., 3 lbs. hyd. creta, 3 oz. quinine, 4 oz. ferri quiniae cit., all Howard's; 7 lbs. pmly. cubeba, 2½ lbs. gum opii tinc., 7 lbs. pulv. myrrae tinc., 4 lbs. ra. seuega, 1 lb. ciss. limonis extra, 1 lb. ess. bergamot extra, Winchester tinct. nucis vom., ditto decoct. sarze co. conc. (Thompson's); best offer accepted, whole or part. Francis, 3 Manfred Street, Prescot Street, Liverpool.

Wholesale Druggist's Stock.—2 cwt. p. cuheha, 4 cwt. mel. jam, 1 cwt. bals. copaib, 3 cwt. fol. senua, Tin, and Alex., 3 cwt. p. glycyrrh., 14 lbs. p. opii, Turc., 28 lbs. potass. iod., 14 lbs. acid. tannic and gallic, 4 lbs. morph. mur. and acet., 80 ozs. Howard's quinine, 1 cwt. rad. gent., 14 lbs. hals. Peru, mosch. gran. and pod. 12 oz., 28 lbs. bismut' subnit., ½ lb. ambergris, 56 lbs. cort. cinch., flav. and pull., 16 lbs. vanilla, 10 lbs. croci, 18 lbs. scammon. virg. and pulv., 28 lbs. gum benzoic, 20 lbs. p. ext. coloc. co., including almost every description of drugs, chemicals, and sundries required by the trade. Lists on application. Lloyd Rayner, 333 Kingsland Road, London, N.

## Proprietary Articles.

Myers' cattle spice, 12s. per ton, 1s. per cwt. 23s./21.

Barrow Evans' hair restorer; offers wanted, or exchange for drugs or patents. 23s./17.

Four dozen ls. Baron Liebth's cocoa; 2 dozen 2s.

ditto; 50 per cent. off retail price. 23s./4.

McLeod's sheep-dip for 1,500; all clean, various sizes, 10 per cent. nuder cost. Lyle, Chemist, Berwick-on-Tweed.

Clean and saleable patents, surplus stock, at half retail price, carriage paid; send for list. Heald, Burham, Bucks.

5 cwt. Green's condiment for horses, cattle, poultry, &c.; surplus stock; any reasonable offer taken. 23s./20.

Quantity patents, all clean and everyday sale, no dead stock; also quantity drugs; list on application. Francis, 3 Manfred Street, Prescot Street, Liverpool.

Saleable patents for sale or exchange: 9 Baxter's preserver, 10 Burdock's pills, 12 Pritchard's powders, 6 Crompton's essence, 12 Crompton's elixir, 9 Crompton's pills, 6 Lowe's pills, all 1s. 1½d. size; 6 Crompton's essence, 6 Lowe's pills, 7½d. size, 8s. 6d. and 5s. per dozen; dozen Stedman's powder, 6s. 3d. free; 9 ls. Cond's red fluid, 3s. "Chemist," 141 St. James' Street, Bury.

Seven medicated lozenges for biliousness and constipation, 21 digestive tonic, 28 catarrhal and bronchitis, 17 for sore throat, 12 for worms in children, 3 phosphorus and quinine, 18 rheumatic and gout, 2 toothache and neuralgia powders, 5 teething powders, total 113, J. M. Kendall's 13½d. clean, offered at 6d. each—all or part. "Chemicus," 287 Hyde Road, Manchester.

## Apparatus.

Eight-gallon copper still, head-lined with tin; price 17. 23s./14

New iron weights, three 7 lb., three 4½ lb., 2 lb., 1 lb.; pressure mould for six; what offers? Harvey, Margate.

Six Clarke's & Hamilton's pewter syringes, 5s.; Fig. 7 Maw's dispensing-scales, nickel plated, 18s. Arthur Deck, King's Parade, Cambridge.

A 2-gallon copper still with pewter worm and furnace, with two condensers; will work five gallons in six hours; only used once; what offers? Palmer, Chemist, Aylesbury.

Bottling machine, by Farrow & Jackson; will fill four large Winchesters at once; new this summer, and in perfect condition; cost 6s.; price 60s.; good reason given for parting with if desired. T. Spencer, 13 Belgrave Street, King's Cross.

Copper still, 18 in. high, 15 in. diameter, tap at bottom, tin head, lead worm, 30s.; brass pan, iron handle across, 10 in. diameter, 13 in. deep, 15s. 6d.; zinc window-plate, "Dispensing Chemist," 6 ft. long, 6½ in. deep, 10s.; 24 5 gr. pill-machine rollers, 12s.; marble mortar, 15 in. diameter outside, 12s.; Fisher, 29 Bank Street, Carlisle.

## Educational.

Southall's *materia medica* cabinet, in clean and good condition; price 20s. 23s./7.

Set of illegible autograph prescriptions (original), 2s. 6d., as presented to the Pharmaceutical Society of Ireland for their examinations; 30 prescriptions (catch and difficult) given to dispense at Minor during past 12 months, 2s.; 50 questions asked of successful students at last Minor, 1s. 1d.; lot of cheap, almost new, books. Stamp for list, Saunders, 130 Camden Road, N.W.; note change of residence.

## Literature.

Araott's "Physics," 10s. 6d.; *Pharmaceutical Journal* from 1875, 3s., single vol.; 4s.; *Chemist and Druggist* from 1875; "Year-book of Pharmacy," 15s. to 1877; what offers? Jones, Pharmaceutist, Treherbert.

Photographs.—First-class originals, by leading English, French, and American artists, 2s.; cabinets, half price, or 9s. per doz. to clear, cost 16s.—Gladstone, Royalty, actresses, ballet girls, &c.; three specimens for 2s. Henry Turner, Chemist, Totterdown, Bristol.

## Soda-water Plant.

American-principle machine, second-hand, by Davenport; 300 daily; 20s. Particulars, N. G. Wilcocks, Bath.

Corking-rack by Dows, Clark & Co., second-hand; 3s. 15s. Particulars, N. G. Wilcocks, Bath.

Soda-water machine by Mondolot, Paris; second-hand; 15s.; as good as new. At N. G. Wilcocks', Bath.

Handsome soda-water stand, with marble top, at half cost or good exchange. Smith, Chemist, Ludlow.

Barnett & Foster have some second-hand soda-water machinery of their own make for sale. Apply 23r St. Forston Street, Shepherdess Walk, N.

Soda-water machine, with gasometer, by Barnett, Son & Foster, London, No. 2, in perfect order; good as new; will be sold a bargain. Edinburgh and Leith Aerated Water Company, Edinburgh.

5s., all at.—Second-hand engine, boiler, lead generator, & copper gasometer, Bramah pump, big condenser, gauges, filling machine for corks, ditto patents; seen at work by appointment. Particulars, N. G. Wilcocks, Bath.

## Shop Fittings.

Galvanised iron bin for salt, for holding bird-seed or other grain; vermin-proof. Weaver, 42 Dudley Road, Wolverhampton.

Shop-desk, 2 feet by 2½ feet, 10s.; pill machine, roll 24, 5s.; ditto, roll 12, 5s. Floyd & Hicks, Bury St. Edmunds.

A few 4, 8, and 16 oz. blue shop-jars, fig. 13. Maw's; five syrup-bottles, 32 ounce plug stoppers; cheap. Hardy, Bishop's Stortford.

Several dispensing screens, several wall cases, desks and cases, bent cases all sizes, upright cases, 24, 30, 36, 42, 48, 60, 72 inches long. Tomlinson, 15 St. Paul's Square, Birmingham.

Treble's 7s. bent plate glass mahogany case, hinged mirror back, 3 feet by 1, 8 inches deep; condition perfect, except faded velvet. What offers in saleable goods? Cash price 5s. Brown, North Shields.

Largo bell-metal mortar for sale, 1s. per lb., worth 1s. 6d.; No. 12 Wedgwood mortar, good as new, 9s.; large mahogany wall case, 11s.; pine front for counter, glass doors, 8 ft. 8 in., 40s. Tomlinson, 15 St. Paul's Square, Birmingham.

**Bargains.**—The entire fittings of a chemist's shop, comprising mahogany-fronted drawers with shelving over, window-enclosure, counters, wall-cases, dispensing-screen, counter-case, upright case and desk, bottles, jars, carboys, suitable for a shop about 18 ft. deep; 35*l.* Can be seen fitted in place. E. Natali, 207 Old Street.

5 ft. long, 6 ft. long, 7 ft. long, handsome dispensing-screens, with mirror centre, and case at each end; 3 ft. long, 3 ft. 6 long, 4 ft. long, 4 ft. 6 long, 5 ft. long, 6 ft. long, 7 ft. long, 8 ft. long, 10 ft. long handsome dispensing case screens, as Maw's designs; quantity mahogany screens, as A. 55; 2 ft. long, 2 ft. 6 long, 3 ft. long, 4 ft. long, 4 ft. 9 long, 6 ft. long, 8 ft. long, mahogany flat and bent plate-glass counter-cases; quantity sloping-front counter-cases, cigar cases, sponge-case, soda-water stands, &c. Lloyd Rayner, 333 Kingsland Road, London, N.

**Surplus stock.**—Plate-glass facia, embossed, gold letters, black ground, "Pharmaceutical Chemist," 14*l.* in, by 14 in., 3*l.* 10*s.*; mahogany wall-case, 73*l.* in. long, 21 in. deep, 19*l.* in. high, three bent-plate flaps to lift up, mahogany ends, deal back, 6*l.* 10*s.*; 16 2-lb. lilac-jars, 1*l.*; 21 1-lb. drab, 13*s.*; 16 8-oz., 7*s.* 6*d.*; 18 8-oz., white, 6*s.*; 28 4-oz., white, 5*s.* Second-hand—37 6-qt. black uprights, 37*s.*; 12 3-pt. narrow, 12*s.*; 16 3-pt. wide, 16*s.*; 3 2-gall. carboys, 7*s.* 6*d.*; 4 2-gall. cylinders, 14*s.*; 3 2-gall. carboys, 10*s.* 6*d.* W. Hawke & Son, Wild Court, Great Wild Street, London, W.C.

**Handsome nearly new chemist's fixtures by Treble;** mahogany-fronted gold-labelled shop drawers, with cut-glass knobs, gilded backs with mahogany lockers under and coverboard on top, mahogany cupboards; retail and dispensing counters, with mahogany-moulded top fitted with drawers; the entire range of mahogany-faced shelving with uprights, with mahogany-moulded cornice on top; dispensing-screen, case and desk, counter-cases, &c.; two embossed and silvered plate-glass ornamental inner shop-doors. List on application. Lloyd Rayner, 333 Kingsland Road, London, N.

20-ft. mahogany-top counter, 9*l.*; 20-ft. mahogany front and top counter, fitted with 20 drawers, 15*l.*; a 18-ft. mahogany-top ditto, 7*l.*; 8-ft. ditto ditto, fitted with 15 drawers the entire length, 6*l.*; 12-ft. 6-in. ditto ditto, 24 drawers 10*l.*; 5-ft., 6-ft., 7-ft., 8-ft., and 10-ft. mahogany-top counters; a number mahogany-top cupboards; 16-ft. dispensing-counter, suitable for a dispensary, to fit against wall, with sink, drawers, and cupboards under, and shelving on top; a number of mahogany nests of drawers 4 ft., 6 ft., 8 ft., 10 ft., 12 ft., 16 ft. long, with or without shelving over, glass knobs and bevelled-edged labels. E. Natali, 207 Old Street.

**Fittings for entire shop as follows (mahogany fittings chiefly):**—Mirror in centre of window, 8*l.* mahogany-fronted drawers, glass labels and glass knobs with double lockers under, 12 feet, 4*l.* feet high; and new mahogany-edge fixture, four rows of shelves above them; pine-painted fixtures for back of shop, same height; one mahogany counter, one pine counter for back, both mahogany-edged to match; 36 1 and 2 lb. broad and narrow stoppered rounds, 24 1-pint wide-mouth rounds, 36 1-pint narrow-mouth ditto, 36 1/2-pint ditto, ditto, 24 1/2-pint broad-mouth ditto, desk and case, mahogany case, 30-inch flat case, two label drawers, one till, 4-foot dispensing screen; will fit shop about 14 feet square, could be planned for 16 feet. All the lot for 36*l.* 13*s.* 10*d.*; will send a drawing. R. Tomlinson, 15 St. Paul's Square, Birmingham.

The entire superior handsome solid oak and walnut chemist's fittings for disposal.—Embossed plate-glass window enclosures; plate-glass wall-cases, with cupboards at bottom, bent plate-glass falls above, with mirror backs, with upright cases above, with moulded corners on top; gold-labelled shop-drawers, glass knobs; plate-glass side counter, with mirror above, in handsome carved frame; shelving, pilasters, cornices; dispensing counter, fitted complete with drawers, &c., with handsome mirror screen on top, with timepiece in centre; large retail counter, fitted complete with drawers; desk, bent plate-glass cases, &c., outside globular lamp. Apply, Lloyd Rayner, 333 Kingsland Road, London.

15 superior nearly new mahogany moulded-top counters, with polished-pine fronts, panelled and moulded, &c., in all sizes, from 3 ft. up to 24 ft. long; handsome mahogany dispensing and retail counters, with glass case fronts; gold-labelled shop-drawers, 3 ft. long, 3 ft. 2 in. long, 6 ft. 4 in. long, 10 ft. 4 in. long, 12 ft. long, 14 ft. long; one 13 ft. long nest superior large mahogany-fronted gold-labelled shop-drawers; 10 nests deal-stained mahogany-fronted gold-labelled shop-drawers, all lengths; handsome wall cases, 2 ft. 7 in. long, 3 ft. 2 in. long, 4 ft. long, 7 ft. 6 in. long, 8 ft. long, 10 ft. long, 13 ft. 3 in. long, 12 ft. 6 in. long, 14 ft. 6 in. long, 20 ft. long; handsome 12-ft. 6-in. long side-counter, glass-ease front, with sloping plate-glass front, doors lift up in front, plate-glass front, mirror back; two 5-ft. long plate-glass show-cases, on stands, for centre of shop. Lloyd Rayner, 333 Kingsland Road, London, N.

Two hundred and fifty shop-rounds, 7*s.* 6*d.* doz.; two 12-gallon and one 16-gallon handsome pear-shape carboys with cut-glass stoppers with stands; quantity smaller carboys; quantity handsome specie-jars, Royal arms, &c.; 80 handsome show-jars, as fig. D, Maw's, 7*s.* each; quantity ointment and ext. jars; quantity carboy and upright shape store-bottles, japan re-gilt caps; large and small composite mortars; and pestles; marble, iron, glass mortars; glass percolators, tinture-presses, leech aquarium and jars, pill and pastile machines, counter and dispensing scales, beam warehouse scales, store boxes, retort and vial stands, quantity of small and large gas-furnaces and utensils for laboratory, &c.; 20 large sea and family medicine chests, all sizes; quantity wholesale druggists' bottles, Winchester quarts, Corby quarts, &c.; medicine-chest squares and ointment jars; 10 gross stoppered bottles, &c. Lloyd Rayner, 333 Kingsland Road, London, N.

**Sponge-cases,** fig. A 43, 5*l.*; fig. A 41, 65*s.*; desk and cases, fig. A 31, 6*l.* 7*s.*; fig. A 32, 45*s.*; a 10-ft. 3-in. bent plate glass counter-ease brass frame, 9*l.*; a 9-ft. 9 in. ditto, ditto, mahogany frame, 8*l.*; 6-ft. 6-in. ditto, ditto, 7*l.*; 6-ft. ditto, ditto, A 18, 7*l.*; 5-ft. ditto, ditto, 6*l.*; 4-ft. ditto, A 17, 9*s.*; 4-ft. ditto, A 16, 8*s.*; 3-ft. 6-in., A 16, 7*l.*; 3 ft. ditto, 6*s.*; 2-ft. 6-in. ditto, 5*s.*; 6-ft. ditto, ditto, A 7, 7*l.*; 3 ft., fig. A 8, 4*l.*; a large number of other glass counter-eases, too numerous to mention in list; plate-glass dispensing-screens, 5 ft. long, 6 ft. long, 7 ft. long, glass ease at each end, with silvered glass centre, with marble slab in front, tablets on top, silvered-glass backs, inside cases, and fitted with movable shelves, very elaborate, 8*l.* 10*s.* each; a 8-ft. dispensing-screen, A 68; a ditto, ditto, 5 ft. 9 in.; dispensing-screens, A 55, 5 ft. long, 6*l.*; 6 ft. long, 7*l.*; 4 ft. 6 in. long, with silvered plate-glass back inside, 7*l.* E. Natali, 207 Old Street, London, E.C.

Nests drawers, show-bottles, specie-jars, glazed cases, shop bottles and jars, store bottles, lamps and irons, counters, various other articles, all cheap, to clear out. 846 Old Kent Road.

**Fittings** for a small branch shop, suitable for branch, as follow:—5-oz. to 8-oz. rounds, syrups, ointment, and pill jars, pill machine, mortars, mixers, large and small scales, palette knives, coffee mill, shelves, cornice, 90 drawers, some glass labels in the drawers, and sundry other things, for 18*l.* Tomlinson, 15 St. Paul's Square, Birmingham.

### Formulas.

The recipes for three superior perfumes, "Dover Bouquet," "Devon Nosegay," and "Persian Bouquet," 3*s.* 6*d.* each, or three for 10*s.* Chemist, 20 Dean Street, Bedminster, Bristol.

**Bargain.**—20 (original) recipes for 5*s.* six stamps each, send stamped addressed envelope for list. Sure to give satisfaction. Robson, 21 Victoria Street, Newcastle-on-Tyne.

**Well-tried, reliable formulae.**—"Entirely New Toothache Remedy," gives instant ease, non-poisonous, infallible; "Nigerine," brilliant jet-black, waterproof patent blacking, better than Nubian; "Impulsive Bitters," the king of pick-me-ups, quite equal to American preparation, one-third price; "Digestive Relish," mellow, piquant, appetising, from 3*l.* gallon; "Lime Cream and Glycerine," elegant, creamy, snow-white, perfectly inseparable, warranted best in market; "Foaming Dentifrice," resembles Florilene, one-eighth cost; "Rheumatic Emulsion" (Camphor, Arnica, &c.), most excellent remedy, inexpensive; "Amygdaline Balm," vastly superior to milk of roses, elegant, emollient, non-sticky; "Anti-spasmodic Elixir," truly invaluable for wind, indigestion, &c., one dose relieves; "Corn and Wart Eradicator," quickly removes corns, cleanly, painless, warranted a genuine proprietary article, and certain to give satisfaction (resembles Hargreaves'); "The Chemist's Ink," most perfect ever introduced, particularly adapted to chemists; "Lincolshire Bouquet," most excellent, full-bodied, perfume resembling Mona bouquet; "Chlorodyne," mixes freely with water, &c., inseparable, equals Brown's, inexpensive; "Pernian Gout and Rheumatic Pills," these, sold under another name, have enormous sale; "Chilblain Remedies," broken and unbroken, ensure almost instant ease, not dangerous, may be sold with confidence; "Cough Syrup" (like Kay's essence), will cure most obstinate coughs, certain in action, easy cost; "Effervescent Depurative Saline," *fac-simile* of Eno's, perfectly soluble, keeps well, costs 10*d.* lb.; "Cryptosporosis," safe, certain, speedy cure for gleet, &c., long-standing cases quickly succumb; "Hair-restorer" (*sine* sulphur), clear and sweet, elegant appearance, most reliable; "Lavender Water," excellent, equals Sainsbury's in fragrance, superior to many costly bouquets; "Occasional Pills" (for ladies), physician's prescription, preferred by many to Welch's or other female pills; "Essence for Deafness," simple, rapidly effectual, inexpensive; "Quinine and Iron Tonic" (resembles Pepper's), splendid unchangeable preparation; "Worm Syrup," purely vegetable, pleasant taste, rapid action; "Mist. Gonorrhœa," radical cure, male or female, taste covered. All above recipes guaranteed genuine (exchanged if not approved of). Price 1*s.* 1*d.* each, 3 for 2*s.* 6*d.*, 25 for 17*s.* free. Detailed list of 125 and particulars of any post free. T. Brooks, Chemist, Louth, Lincs.

Fragrant foaming dentifrice (like "Florilene"); marking ink, *sine* silver (aniline), writing executed defies chemicals; effervescent fruit saline (resembles Eno's); magic neuralgic drops (never-failing remedy); quinine and iron tonic (resembles Pepper's); lime-juice and glycerine (inseparable, white as milk); blue-black ink (non-corrosive, *sine* iron or galls); cherry tooth paste (never ferments, like Gosnel's); brilliantine (inseparable, like Rimmel's); pill-coating (pearly white, no mucilage or mastic used); glycerine jelly (perfectly transparent); crimson marking-ink; hair-restorer (colourless, no deposit, *sine* silver); aromatic vinegar; toilet vinegar (as Rimmel's); plate-powder (like Stevens' "Silicon"); Oleum Flavum Conc., for pomades (colour stable); soluble essence ginger (like Hay's); corn solvent, clear (not acid); liquor copaiba comp. c. buchu et matico (mixes clear with water); gonorrhoea paste, excellent (Dr. Ricord's); taraxacum and podophyllin (resembles Pepper's); with many others; send stamp for list, stating wants. The toilet preparations are identical with those prepared by a wholesale West-end firm; others equally good; all inexpensive to make; 5s. each (five for 12s.). Readers are cautioned against cheap and worthless imitations. I was first to advertise formulae in this journal. Note change of residence, "Analyst," care of Mr. Warnes, 130 Camden Road, N.W.

#### Miscellaneous.

Magic-lantern slides, sale or exchange, cheap, good. Apply, Piggott, Chemist, Huddersfield. About three dozen large Zoedone; what offers, or exchange? 233/39. Two good magic lanterns to be sold very cheap. Doble, Chemist, Tavistock. 112 lbs. powdered borax at 6½d.; a few 2s. 9d. patents at 1s. 9d.; 1s. 11½d. ditto, 8s. 235/6 Cheap, 12 best gold spiral springs; ditto not so good; also, lady's solid ivory hair-brush, weighs over 4½ oz.; approval; deposit, 234/4.

Several cases Apollinaris water, 18s. and 28s. per case; 21-lb. demy, 7s. 6d. per canam. Day & Co., Herne Hill, S.E.

A mellow toned Cremona violin, Strad. copy, in handsome case, and bow, price 30s.; approval. Riley, Dentist, New Liverpool Street, Salford, Manchester.

Two Barker's turnover bottling-racks; Newton, Wilson & Co.'s horograph, for duplicate writing. For prices apply to B. G. Lennon & Co., 11 Edmund Place, Aldersgate Street, E.C.

Moulded sign-board, 30 ft. by 6 ft., journals from 1856, dyes (Judson's), teats, tourniquets, respirators, Cooper's dip, oil-cisterns, case honeycomb sponge, Florida water. Owles, Chemist, Ipswich.

Two fixed rollers for crushing soda crystals; Avery's counter-scale; Epsom salts, some 2 cwt. and 5 cwt. casks; quantity gentian-root; Rankoff's coil, 7-inch spark, new and cheap; quantity 6d. auline dyes. Wilks, Burnley.

Iron mortar, 12 in. diameter, 11 in. high, tincture press case, 14 tooth forceps (by Evrard) with key-punch and laucet, good condition, and set stopping instruments, good as new, and retort stand; what offers? Woollatt, Ware, Hants.

A first-class young Irish water-spaniel dog, five months old, out of Molly by Pompey; he has already a splendid top-knot; Molly is by the prize dog Limerick, ex the prize bitch Young Cathleen; Pompey by the prize dog Wallace, ex Mr. Canty's noted bitch Duck; cheap to a good home. Hay, Chemist, 4 Regent's Terrace, Hull.

#### WANTED

Pessary-mould, also suppository mould for 12; state particulars. Metcalfe, Chemist, Hull. Invalid's carrying chair, folding preferred. Thornley, Chemist, Manchester. Judd's "Metric System." Williams, 29 Adelaide Street, Cardiff. Good model of Phoenix for outside. Dutton, Chemist, Bolton.

Show-jar, gilt-glass cover, height 29 in. Hugh Davis, Chemist, Machynlleth.

Beasley's "Receipt Book." Beasley's "Prescription Book." Wilks, Burnley.

A 2-gal. tincture-press, as Maw's. Address F. D. Delf, Dewsbury.

Suppository mould, "Squire's Companion," latest edition. Lawrence, Chemist, Oban.

Facsimiles of the seals attached to letters patent. Tunley, Albert Road, Southsea.

"Enterprise" drug-mill, medium size, must be good and cheap. 232/25.

A recipe for genuine Worcestershire sauce. 229/18.

A good copper still, 19 to 20 gallons, with condenser for gas. Deck, Cambridge.

Skull or skull and two femoral bones; state price. Warriner, Chemist, Nottingham.

Southall's *materia medica* cabinet, good and cheap. W. B., 15 Compton Street, W.C.

In good order, latest editions Cooley's "Cyclopaedia," Bentley's "Botany," Oliver's "Botany," Metcalfe, Chemist, Hull.

*Chemist and Druggist*, the number for February, 1880. Apply to R., 60 Bartholomew Close, E.C.

Extracting forceps, good, complete, or partial set. "Dentist," 360 Gray's Inn Road, London, W.C.

Wanted to buy for cash.—Drugs, chemicals, and apparatus, or exchange. C. G., 11 Wilson Street, Finsbury, E.C.

Three show-jars as Maw's Fig. D, height 18 in. or more, with or without labels; 1 doz. jars for sweets, 9 or 10 in. high. B. & H. Waddington, Thornton, near Bradford.

A good semicircular Spanish mahogany show-case, about 3 feet high and 3 feet 6 (or 9) inches long. Address, Samuel Blackburn, Chemist, Bradford, Yorks.

Mixing and sifting machines, large size, for hand or steam power, good condition; state size, maker's name, and price. Gunn, Chemist, Dunse.

Large glass retorts, good student's balance, stock bottles tubulated at bottom for tap, and other laboratory requisites. State price, &c. to "Chemist" 2 High Street, Buxton, Derbyshire.

#### Trade Report.

THE Board of Trade returns for October were less satisfactory than have been any during the year, as regards export trade. The imports showed an increase of 9 per cent. over those in October, 1881, the values being 31,307,313l. in that month, and 34,152,015l. in October of this year. The value of the exports compares unfavourably with that of October, 1881. Then it was 21,241,021l., now 20,877,713l. Manufactured cotton, linen, silk, and woollens, hardware and chemicals all share in the apparent depression. The figures, as regards chemicals, we append:—

|                                | Oct., 1881     | Oct., 1882 |
|--------------------------------|----------------|------------|
| Alkali.. .. .. .. ..           | cwt. 629,651   | 655,096    |
| Ditto .. .. .. .. ..           | value £201,681 | £203,508   |
| Other chemicals .. .. .. .. .. | £241,527       | £199,113   |

The chemical trade has been dull during the month, though, in the absence of pressure to sell, prices have not declined. Bleaching powder has fractionally advanced on the London market. Sulphate of ammonia is rather higher, as is also sulphate of copper.

TARTARIC ACID is steady, but citric is dull at 1s. 10½d.

CREAM OF TARTAR has considerably advanced, owing, it is said, to the unsatisfactory condition of the French wine trade, which is due to the ravages of the phylloxera.

CAMPHOR.—Owing to the depressed market for crude, refined has been reduced 1d. per lb.

PHOSPHORUS has been advanced by makers 4d. per lb., occasioning an equivalent rise in phosphoric acid and other phosphorus preparations.

IODINE.—There seems to exist some anticipation of an advance. Makers of iodide of potassium refuse to book orders beyond the current year.

At the last drug sales Tonquin musk (the stock of which at the moment is very small) realised stiff prices; very fine quality first pile (*i.e.* flat pods, thin skin and dry), at 77s. to 78s.; very fine quality third pile (*i.e.* flat pods), at 41s.; and very ordinary quality third pile or loaded pickings, at 19s. to 20s. 6d. per oz. Of Yunan musk a few tins of fairly dry quality but partly false packed realised over valuations—44s. to 45s. 6d. per oz. Sarsaparilla sold at fully the previous value—1s. 6d. to 1s. 10d. for fair to good Jamaica, and at 1s. 7d. for good Honduras. Vanilloes failed to attract demand, and only 14 or 15 tins were quitted at a reduction of 6d. to 1s. per lb. on the prices current at the last sales. Rhubarb of good quality went rather in sellers' favour, and holders seem to have confidence in the article, the stock in warehouse being only one-half of what it stood at last year and being smaller than it has been for the last ten years. Crown bark went 1d. to 2d. per lb. cheaper where sales were made. Ipecacuanha was held for more money, and nearly all offered passed the hammer unsold. Of cardamoms a few cases of rather middling Aleppi sold at 4s. per lb., but with this exception only a few odds and ends were quitted. Of Tinnivelly senna a large parcel of new arrival (mostly sea-damaged) brought full value.

In aniseed oil retail sales on the spot have been made at the previous value—7s. 9d. per lb. Cassia oil is quoted rather firmer at 3s. 10d. to 4s. per lb.; the former price has been realised for a small quantity. Citronelle dull of sale at 2½d., and lemongrass dull at 2½d. to 2¾d. per oz. Of cin-

namon oil one or two cases have been sold privately at 1s. 3½d. to 1s. 4d. per oz. American peppermint oil quiet, and very little business done: H. G. Hotchkiss', 12s. 9d. to 13s.; LB nominal at 13s.; and Hale & Parshall's, 12s. 9d. per lb.

**ALOES.**—Cape have arrived more abundantly and have declined accordingly.

CALUMBA ROOT has been almost absent from the market, and what is offered is held for very high prices. A sudden demand for chiretta has likewise sent that root up to extreme rates.

CAMOMILE FLOWERS are not so abundant as was expected, though they are of fine quality. At present they are commanding high prices.

**CINCHONA.**—The bark sales have been dull, though prices, as a rule, do not show much variation; indeed, allowing for the new conditions of sale, prices are generally a shade better. Manufacturers of the alkaloids seem to have now got level with their orders, and quotations are as follows:—

SULPHATE OF QUININE (Howard's), in tins, 8s.; in oz. bottles, 8s. 6d.; French (Pelletier's), in oz. bottles, 8s. 6d.; German (Mannheim), in bulk, 7s. 6d.; Italian (Milan), in bulk, also 7s. 6d.

CINCHONIDINE, British, in bulk, 5s.; ditto sulphate, in oz. bottles, 3s.; French, none; German, bulk, 2s. 9d.; Italian, also 3s. nominal.

CINCHONINE, British, bulk, 2s.; ditto muriate, oz. bottles, 1s. 2d.; ditto sulphate, oz. bottles, 1s. 1d.; German and Italian, oz. bottles, 11½d.; ditto, ditto, in bulk, 9½d.

QUINIDINE, British, bulk, 7s. 6d.; ditto verum, German, 4s., all per oz.

It is announced that all quinine barks will henceforth be sold net at auctions—that is, without any allowance for dust, tret, or discount. This will make current prices compare with previous rates at 10 per cent. higher.

**COCHINEAL.**—A considerable decline is noted in the quotations for this article.

SAFFRON from new crop is quoted lower, and it is said to be of good quality.

CUBEBS are again higher, and are now held for 14s. 10s., which has been actually paid. There seems no immediate prospect of a return to normal prices.

**OPIUM.**—The recent advance in prices affects shipping qualities exclusively. Druggists' sorts are in very little demand, and prices tend downwards. It is not expected that any substantial advance can occur unless the prospects of the 1883 crop should occasion it.

OILS have not varied largely. There has been a steady market for rape, but linseed has slightly declined, in consequence of the decline in value of the seeds.

TURPENTINE is held in strong hands, and the price has been advanced to 40s. during the month, though it has slightly declined since. The stock in hand and afloat is very large.

PETROLEUM has been an excited market, varying fractionally from day to day. The shipments from America for London are much less than last year.

The following notes on essential oils are from the Autumn Report of Heinrich Haensel, Pirna in Saxony:—

**Oil of Caraway.**—At the commencement of this year's harvest there was still sufficient of last year's Dutch stock of caraway seeds to cover the demand for three months. This year's harvest in Holland having been on the whole good too, the prices for seed and oil are very depressed. The present quotation in the Dutch market is 28 gulden per 100 kilos.

**Anise Oil.**—The Russian harvest is over, and seems to have been more favourable than had been expected. The quotation for Russian seed, which, as is known, yields the best oil, is 27. 10s. per 100 kilos.

**Fennel Oil.**—Late rains have damaged the crops very seriously, so that for good seeds, which are, however, inferior in appearance to those of former years, 3l. 5s. per 100 kilos. is quoted.

**Peppermint Oil.**—The countries chiefly cultivating peppermint are England, America, and Germany. This year's German crop was very good, whereas in England it has been about one-third less than last year. In America the culture of the plant is on the decline.

**Juniper Oil.**—The berries are of excellent quality, and quotations for the oil moderate.

**Oil of Cloves.**—Owing to enormous importations of Zanzibar cloves, prices have been on the whole depressed, and still remain so.

**Oil of Ginger.**—Utterly depressed, being but very little used in the manufacture of liqueurs.

**Cubebs Oil.**—Quotations very high and a still further rise probable, the drug being very scarce and the demand lively.

**Star Anise Oil.**—This is on the rise. Cheap offers of star anise must be regarded with suspicion, as the oil is often adulterated.

**Oil of Cinnamon.**—Prices low. Successive large importations have so reduced the price of the bark that certain importers talk of suspending further shipping. Should this be the case, which may happen any moment, a rise for the oil may be expected.

**Oil of Lemon.**—Last year's crop was but moderate, and prices got very high, which, however, did not prevent the stock from being almost completely bought up. This year's harvest promises to be excellent, and has begun 14 days earlier than usual. In addition to this the export of the first unripe lemons to America does not pay this year, so that lower quotations for lemon oil may be expected.

**Oil of Bergamot.**—Quiet, and at high quotations; it is, however, possible that, seeing that last year's stock has not been used up, a slight reduction in price may before long take place.

**Sweet and Bitter Orange Oil.**—The sweet-orange harvest has begun and looks very hopeful in Sicily and Calabria. The bitter-orange harvest does not begin till December. Prices steady.

**Otto of Roses.**—This year's harvest was very insignificant in Kezanlyk, spring frosts having damaged the rose gardens there very considerably, and the warm weather which afterwards set in was of no avail. On July 3, the day on which prices were fixed, primissima oil was quoted on the spot at something over 55s. per kilo., and the entire quantity, which was comparatively small, was at once bought up for speculation. The French crop proved better than that in Turkey, but the rose oil produced in France is for the most part consumed there, and has but very little influence on the market quotations.

**Oil of Orange Flowers.**—Prices higher than last year, and, owing to a scarcity of supply, a further rise must be expected.

**Oil of Bitter Almonds** on the rise, and there is demand for an oil free from prussic acid.

*The following were the Stocks of certain Drugs at the Port of London on October 30, 1881 and 1882.*

|                     | 1882   | 1881   |                     | 1882   | 1881    |
|---------------------|--------|--------|---------------------|--------|---------|
| Aloes .....         | 3,419  | 3,645  | Gum (cont.)—        |        |         |
| " .....,kgs         | 3      | 1      | Benjamin.. pkgs     | 2,057  | 2,290-  |
| " .....,gourds      | 53     | 42     | Damar....           | 3,410  | 3,322-  |
| Aniseed, Star chts  | 295    | 787    | Galbanum ..         | 19     | 30-     |
| Arrowroot ....cks   | 8,751  | 11,793 | Gamboge ..          | 164    | 181     |
| bxs & tins          | 6,611  | 7,807  | Guaiaicum ..        | 45     | 58      |
| Balsam ....cks, &c. | 209    | 14     | Kino .....          | 202    | 19      |
| Bark, Medicinal     |        |        | Kowrie ....tins     | 347    | 868     |
| cks, &c.            | 3,200  | 994    | Mastic ....pkgs     | 102    | 126-    |
| srns, &c.           | 63,715 | 44,726 | Myrrh, E.I.         | 230    | 214     |
| Borax....pkgs       | 799    | 649    | Olibanum ..         | 7,220  | 5,426   |
| Bees' Wax ...bls &  |        |        | Sandarac ..         | 706    | 282-    |
| srns                | 531    | 680    | Senegal.....tins    | 3      | 5       |
| " .....,cks & cs    | 1,126  | 1,478  | Tragacanth pkgs     | 1,670  | 1,456   |
| " .....,cakes       | 153    | 10     | Ipeac...cks & bgs   | 304    | 177     |
| Wax, Jap.vgtbl. pk  | 3,870  | 5,226  | Jalap .....         | 211    | 186-    |
| Camphor ....pkgs    | 10,162 | 6,049  | Nux Vomica pkgs     | 663    | 1,064   |
| Cardamoms ..chits   | 581    | 611    | Oil—                |        |         |
| Coc. Ind. bgs &c.   | 609    | 717    | Castor ....cks      | 661    | —       |
| Colombo root pkgs   | 1,479  | 1,429  | " .....,cs          | 13,162 | 5,888   |
| Cream Tartar ..cks  | 53     | 56     | Palm .....          | 139    | 263     |
| Cubebs .....,bgs    | 100    | 93     | Cocoanut .....,tins | 8,244  | 12,089  |
| Dragonsblood chits  | 136    | 217    | Olive ..cks, &c.    | 1,133  | 1,665-  |
| Galls, China and    |        |        | Aniseed .....,cs    | 184    | 108     |
| Japan .. bgs, &c.   | 91     | 2,961  | Cassia .....,cs     | 329    | 472-    |
| Trky & Prsn sks     | 7,867  | 2,520  | Opium ..chits, &c.  | 1,902  | 1,691   |
| Gum—                |        |        | Rhubarb .....,chits | 698    | 1,202   |
| Ammoniac pkgs       | 259    | 280    | Sarsaparilla ...bls | 986    | 604     |
| Animi & Copal       |        |        | Senna .... bls, &c. | 2,392  | 2,705-  |
| pkgs                | 9,663  | 5,072  | Shellac—            |        |         |
| Arabic, Barbary     |        |        | Orange ..chits, &c. | 16,297 | 15,438  |
| pkgs                | 3,857  | 2,065  | Garnet ..           | 11,040 | 12,909- |
| Turkey ..           | 2,450  | 2,087  | " ..,               | 6,222  | 5,258   |
| E.I.....,           | 2,530  | 2,842  | Button ..           | 1,720  | 2,206-  |
| Assafetida ..,      | 178    | 444    | Turmeric ..tins     | 14     | 49      |
|                     |        |        | Vermilion ..chits   |        |         |

## Monthly Price Current.

The prices quoted in the following list are those actually obtained in Mincing Lane for articles sold in bulk. Our Retail Subscribers must not expect to purchase at these market prices, but they may draw from them useful conclusions respecting the prices at which articles are offered by the Wholesale Firms.

## CHEMICALS.

| ACIDS—                                    | Last Month |     |    | This Month |     |       |
|---|------------|-----|----|------------|-----|-------|
|   | s.         | d.  | s. | d.         | s.  | d.    |
| Acetic.....per lb.                        | 0          | 32  | to | 0          | 0   | 0     |
| pure.....                                 | 0          | 5   | .. | 0          | 9   | 0     |
| glacial.....                              | 0          | 8   | .. | 0          | 9½  | 0     |
| Benzoin Sublimate.....                    | 3          | 6   | .. | 3          | 6   | 0     |
| Ex Gum.....per oz.                        | 0          | 0   | .. | 0          | 0   | 0     |
| Citric.....                               | 1          | 11½ | .. | 2          | 0   | 1 10½ |
| Gallic.....                               | 3          | 2   | .. | 3          | 10  | 0     |
| Hydrochloric.....per cwt.                 | 4          | 6   | .. | 7          | 6   | 0     |
| Nitric.....per lb.                        | 0          | 32  | .. | 0          | 4   | 0     |
| Oxalic.....                               | 0          | 6   | .. | 0          | 6   | 0     |
| Sulphuric.....                            | 0          | 1   | .. | 0          | 1½  | 0     |
| Salicylic.....                            | 6          | 9   | .. | 6          | 9   | 6     |
| Tannic.....                               | 1          | 4   | .. | 2          | 8   | 0     |
| Tartaric, Englisch.....                   | 1          | 7½  | .. | 1          | 7½  | 0     |
| foreign.....                              | 1          | 7   | .. | 0          | 1   | 7     |
| ANTIMONY, crude.....per cwt.              | 25         | 9   | .. | 26         | 0   | 0     |
| star.....                                 | 54         | 0   | .. | 0          | 0   | 54    |
| ARSENIC, lump.....                        | 24         | 6   | .. | 0          | 24  | 6     |
| powder.....                               | 10         | 7½  | .. | 10         | 9   | 6     |
| BRIMSTONE, rough.....per ton              | 127        | 6   | .. | 137        | 6   | 0     |
| roll.....per cwt.                         | 8          | 9   | .. | 9          | 6   | 0     |
| Fourt.....                                | 10         | 6   | .. | 12         | 6   | 0     |
| GLYCERINE, German.....                    |            |     |    |            |     |       |
| refined.....                              | 75         | 0   | .. | 90         | 0   | 75    |
| crude brown.....                          | 40         | 0   | .. | 45         | 0   | 40    |
| Iodoform.....per lb.                      | 8          | 9   | .. | 9          | 0   | 9     |
| IODINE, dry.....per oz.                   | 0          | 4   | .. | 0          | 0   | 0     |
| resublimed.....                           | 0          | 6   | .. | 0          | 6   | 0     |
| MAGNESIA, calcined.....per lb.            | 1          | 0   | .. | 1          | 6   | 0     |
| Hwd.....                                  | 5          | 0   | .. | 0          | 5   | 0     |
| MERCURY.....per hott.                     | 120        | 0   | .. | 0          | 117 | 6     |
| PRECIPITATE, red.....per lh.              | 2          | 11  | .. | 0          | 2   | 11    |
| white.....                                | 2          | 10  | .. | 0          | 2   | 10    |
| PRUSSIAN BLUE.....                        | 0          | 0   | .. | 0          | 0   | 0     |
| SANTONINE.....                            | 12         | 6   | .. | 0          | 12  | 6     |
| SALICINE.....                             | 10         | 0   | .. | 0          | 10  | 0     |
| THYMOLE.....                              | 21         | 6   | .. | 0          | 21  | 6     |
| SALTS—                                    |            |     |    |            |     |       |
| Alum.....per ton                          | 122        | 6   | .. | 125        | 0   | 122   |
| powder.....                               | 135        | 0   | .. | 137        | 6   | 135   |
| Ammonia:                                  |            |     |    |            |     |       |
| Carbonate.....per lb.                     | 0          | 6½  | .. | 0          | 6½  | 0     |
| Hydrochlorate, crude, white.....per ton   | 600        | 0   | .. | 760        | 0   | 600   |
| Subpbate.....                             | 425        | 0   | .. | 430        | 0   | 410   |
| Argol, Cape.....per cwt.                  | 87         | 6   | .. | 96         | 0   | 87    |
| Red.....                                  | 70         | 0   | .. | 85         | 0   | 70    |
| Oporto, red.....                          | 38         | 0   | .. | 42         | 0   | 38    |
| Bleaching powder.....                     | 4          | 9   | .. | 5          | 0   | 5     |
| Borax, British refined.....               | 69         | 0   | .. | 62         | 0   | 59    |
| Calomel.....per lb.                       | 2          | 7   | .. | 0          | 2   | 7     |
| Chloral hydrate.....                      | 4          | 5   | .. | 4          | 7   | 4     |
| Liebreich's.....                          | 5          | 6   | .. | 6          | 0   | 6     |
| Copper:                                   |            |     |    |            |     |       |
| Sulphate.....per cwt.                     | 21         | 0   | .. | 0          | 21  | 6     |
| Copp'ras, green.....per ton               | 42         | 6   | .. | 45         | 0   | 42    |
| Corrosive Sublimate.....per lb.           | 2          | 0   | .. | 0          | 2   | 0     |
| Cream Tartar, French.....per cwt.         | 122        | 0   | .. | 122        | 6   | 120   |
| brown.....                                | 106        | 0   | .. | 0          | 110 | 0     |
| Epsom Salts.....                          | 3          | 4½  | .. | 4          | 6   | 3     |
| Glauber Salts.....                        | 4          | 3   | .. | 5          | 3   | 4     |
| Magnesia: Carbonate.....                  | 40         | 0   | .. | 0          | 40  | 0     |
| Pond, Hwd.....                            | 72         | 0   | .. | 0          | 72  | 0     |
| Morphia Murias.....                       | 7          | 9   | .. | 8          | 0   | 7     |
| Phosphorus.....per lb.                    | 1          | 11  | .. | 2          | 0   | 2     |
| Potash:                                   |            |     |    |            |     |       |
| Bichromate.....                           | 0          | 6   | .. | 0          | 0   | 0     |
| Carbonate:                                |            |     |    |            |     |       |
| Potashes, Canada, 1st sort.....per cwt.   | 35         | 0   | .. | 0          | 0   | 33    |
| Pearlashes, Cauada, 1st sort.....         | 40         | 9   | .. | 51         | 0   | 50    |
| Chlorate.....per lb.                      | 0          | 5½  | .. | 0          | 0   | 0     |
| Prussiate.....                            | 0          | 9½  | .. | 0          | 11  | 0     |
| red.....                                  | 1          | 11  | .. | 2          | 0   | 11    |
| Sulphate.....                             | 9          | 0   | .. | 10         | 6   | 11    |
| Potassium:                                |            |     |    |            |     |       |
| Bromide.....                              | 1          | 7   | .. | 0          | 0   | 1     |
| Chloride.....per cwt.                     | 9          | 0   | .. | 0          | 0   | 9     |
| Iodide.....per lb.                        | 6          | 0   | .. | 0          | 0   | 0     |
| Quinine:                                  |            |     |    |            |     |       |
| Sulphate, British, in bottles.....per oz. | 10         | 0   | .. | 0          | 0   | 8     |
| Sulphate, French.....                     | 10         | 0   | .. | 0          | 0   | 8     |
| Sulphate, German.....                     | 8          | 9   | .. | 0          | 0   | 7     |
| Sal Acets.....per lh.                     | 0          | 9   | .. | 0          | 9½  | 0     |
| Sal Ammoniac, British per cwt.            | 44         | 0   | .. | 45         | 0   | 45    |
| Saltpetre:                                |            |     |    |            |     |       |
| Bengal, 6 per cent.....                   | 20         | 3   | .. | 20         | 6   | 20    |

| Saltpetre:—(cont.)                           | Last Month |    |    | This Month |    |     |
|--|------------|----|----|------------|----|-----|
|  | s.         | d. | s. | d.         | s. | d.  |
| Bengal, over 6 per cent.....per cwt.         | 19         | 0  | .. | 20         | 0  | 18  |
| British, refined.....                        | 26         | 6  | .. | 27         | 0  | 25  |
| Soda: Bicarbonate.....                       | 9          | 0  | .. | 0          | 0  | 8   |
| Hwd.....                                     | 45         | 0  | .. | 0          | 0  | 45  |
| Carbonate:                                   |            |    |    |            |    |     |
| Soda Aeh.....per deg.                        | 0          | 1½ | .. | 0          | 0  | 0   |
| Soda Crystals.....per ton                    | 63         | 3  | .. | 0          | 0  | 64  |
| Caustic.....                                 | 9          | 0  | .. | 9          | 3  | 9   |
| Hyposulphite.....per cwt.                    | 8          | 0  | .. | 8          | 6  | 8   |
| Nitrate.....                                 | 13         | 4½ | .. | 0          | 0  | 12  |
| Zinc Sulphate.....                           | 12         | 0  | .. | 14         | 0  | 12  |
| SUGAR OF LEAD, White.....                    | 36         | 0  | .. | 38         | 0  | 36  |
| Brown.....                                   | 26         | 0  | .. | 0          | 0  | 26  |
| VERDIGRIS.....per lh.                        | 0          | 8  | .. | 1          | 0  | 0   |
| VERMILION, English.....                      | 2          | 5  | .. | 0          | 0  | 2   |
| China.....                                   | 3          | 0  | .. | 3          | 1  | 3   |
| DRUGS.                                       |            |    |    |            |    |     |
| ALOES, Hepatic.....per cwt.                  | 70         | 0  | .. | 145        | 0  | 70  |
| Socotrine.....                               | 55         | 0  | .. | 130        | 0  | 55  |
| Cape, good.....                              | 50         | 0  | .. | 54         | 0  | 45  |
| Inferior.....                                | 33         | 0  | .. | 49         | 6  | 33  |
| Barbadoes.....                               | 60         | 0  | .. | 150        | 0  | 60  |
| Curaçoa.....                                 | 48         | 0  | .. | 120        | 0  | 48  |
| AMBERGRIS, grey.....per oz.                  | 100        | 0  | .. | 117        | 6  | 90  |
| BALSAM—                                      |            |    |    |            |    |     |
| Canada.....per lh.                           | 0          | 0  | .. | 0          | 0  | 2   |
| Capivi.....                                  | 2          | 5  | .. | 0          | 0  | 2   |
| Peru.....                                    | 14         | 0  | .. | 0          | 0  | 13  |
| Tolu.....                                    | 2          | 2  | .. | 0          | 0  | 2   |
| BARKS—                                       |            |    |    |            |    |     |
| Canella alba.....per cwt.                    | 16         | 6  | .. | 22         | 0  | 25  |
| Cascarella.....                              | 16         | 6  | .. | 18         | 0  | 16  |
| CINCHONA—                                    |            |    |    |            |    |     |
| Peru, grav.....per lb.                       | 0          | 9  | .. | 1          | 10 | 0   |
| Calisaya, flat.....                          | 1          | 10 | .. | 3          | 0  | 1   |
| quill.....                                   | 4          | 0  | .. | 6          | 6  | 5   |
| Cartbagens.....                              | 0          | 6  | .. | 3          | 7  | 6   |
| Columbian.....                               | 0          | 6  | .. | 3          | 3  | 4   |
| Cuprea.....                                  | 0          | 6  | .. | 2          | 9  | 5   |
| New Granada.....                             | 1          | 0  | .. | 5          | 3  | 1   |
| Pitayo & Maracaibo.....                      | 0          | 4  | .. | 2          | 3  | 2   |
| Red.....                                     | 2          | 0  | .. | 10         | 0  | 9   |
| East India, crown.....                       | 0          | 5  | .. | 6          | 9  | 5   |
| red.....                                     | 0          | 4  | .. | 4          | 9  | 4   |
| BUCHU LEAVES.....                            | 0          | 5  | .. | 1          | 5  | 1   |
| CAMPHOR, China.....per cwt.                  | 73         | 0  | .. | 0          | 0  | 70  |
| Japan.....                                   | 75         | 0  | .. | 0          | 0  | 72  |
| Refiu, Eng.....per lh.                       | 1          | 3½ | .. | 0          | 0  | 1   |
| Tablets.....                                 | 1          | 4  | .. | 0          | 0  | 1   |
| CANTHARIDES, China.....                      | 2          | 6  | .. | 0          | 0  | 2   |
| Russian.....                                 | 3          | 6  | .. | 3          | 10 | 3   |
| CHAMOMILE FLOWERS.....per cwt.               | 15         | 6  | .. | 70         | 0  | 150 |
| CASTOREUM.....per lb.                        | 17         | 6  | .. | 30         | 0  | 22  |
| DRAGON'S BLOOD, Ip.....per cwt.              | 45         | 0  | .. | 235        | 0  | 45  |
| ERGOT OF RYE.....per lb.                     | 1          | 0  | .. | 0          | 0  | 11  |
| FRUITS AND SEEDS (see also Seeds and Spices) |            |    |    |            |    |     |
| Anise, China Star.....per cwt.               | 100        | 0  | .. | 105        | 0  | 100 |
| Russian.....                                 | 22         | 0  | .. | 0          | 0  | 20  |
| Beans, Tonquin.....per lb.                   | 5          | 0  | .. | 10         | 0  | 5   |
| Cardamoms, Malabar, good.....                | 5          | 3  | .. | 6          | 9  | 4   |
| inferior.....                                | 3          | 0  | .. | 5          | 0  | 2   |
| Aleppy.....                                  | 2          | 6  | .. | 5          | 0  | 5   |
| Madras.....                                  | 2          | 6  | .. | 5          | 0  | 4   |
| Ceylon.....                                  | 1          | 9  | .. | 2          | 9  | 3   |
| Malabar sorts.....                           | 2          | 6  | .. | 5          | 9  | 6   |
| Cocculus Indicus.....per cwt.                | 10         | 0  | .. | 10         | 6  | 10  |
| Cocculus, apple.....per lb.                  | 1          | 0  | .. | 1          | 3  | 0   |
| Cubeb.....per cwt.                           | 249        | 0  | .. | 280        | 0  | 290 |
| Cummin.....                                  | 35         | 0  | .. | 36         | 0  | 31  |
| Fenugreek.....                               | 10         | 0  | .. | 13         | 0  | 14  |
| Juniper Berries.....                         | 10         | 0  | .. | 10         | 6  | 10  |
| Nux Vomica.....                              | 6          | 0  | .. | 9          | 0  | 12  |
| Tamarinds, E. India.....                     | 8          | 0  | .. | 14         | 0  | 8   |
| West India.....                              | 13         | 6  | .. | 15         | 6  | 15  |
| Vanilla, large.....per lh.                   | 16         | 0  | .. | 24         | 6  | 16  |
| interior.....                                | 10         | 0  | .. | 15         | 6  | 10  |
| FLOWERS—Dalmatian.....                       | 69         | 0  | .. | 90         | 0  | 60  |
| Caucasian.....                               | 95         | 0  | .. | 0          | 0  | 95  |
| HONEY, Chili.....per cwt.                    | 39         | 0  | .. | 45         | 0  | 39  |
| Jamaica.....                                 | 39         | 0  | .. | 40         | 0  | 39  |
| IPECACUANHA.....per lb.                      | 3          | 7  | .. | 4          | 8  | 3   |
| ISINGLASS, Brazil.....                       | 2          | 5  | .. | 4          | 7  | 2   |
| Tougue sort.....                             | 2          | 9  | .. | 5          | 7  | 5   |
| East India.....                              | 0          | 7  | .. | 5          | 0  | 7   |
| West India.....                              | 2          | 8  | .. | 4          | 7  | 8   |
| Russ. Leaf.....                              | 7          | 0  | .. | 10         | 3  | 7   |
| .. Simovia .....                             | 2          | 2  | .. | 2          | 2  | 2   |
| JALAP, good.....                             | 1          | 0  | .. | 1          | 1  | 1   |
| infer. and stems.....                        | 0          | 10 | .. | 0          | 11 | 0   |
| LEMON JUICE.....per deg.                     | 0          | 0  | .. | 0          | 0  | 0   |
| LIME JUICE.....per gall.                     | 1          | 6  | .. | 1          | 9  | 1   |
| LIQUORICE, Spanish.....per cwt.              | 0          | 0  | .. | 0          | 0  | 0   |
| Liquorice Root.....                          | 30         | 0  | .. | 0          | 0  | 30  |
| MANNA, flaky.....per lb.                     | 4          | 6  | .. | 5          | 0  | 4   |
| MUSK, Tonquin pod.....per oz.                | 16         | 0  | .. | 79         | 6  | 16  |
| Grain.....                                   | 40         | 0  | .. | 70         | 0  | 40  |
| Yuan pod.....                                | 40         | 0  | .. | 53         | 0  | 40  |
| OILS (see also separate list)                |            |    |    |            |    |     |
| Almond, expressed.....per lb.                | 1          | 3  | .. | 0          | 0  | 1   |
| Castor, 1st pale.....                        | 0          | 3½ | .. | 0          | 4  | 3½  |
| second.....                                  | 0          | 3½ | .. | 0          | 3½ | 0   |
| Cod-liver.....per gall.                      | 6          | 9  | .. | 9          | 0  | 6   |

| Essential Oils :                    | Last Month |       |         | This Month |       |         | Oils :—(cont.)                        | Last Month |      |         | This Month |      |         |
|-------------------------------------|------------|-------|---------|------------|-------|---------|---------------------------------------|------------|------|---------|------------|------|---------|
|                                     | s. d.      | s. d. | s. d.   | s. d.      | s. d. | s. d.   |                                       | £ s.       | £ s. | £ s.    | £ s.       | £ s. | £ s.    |
| Almond .....                        | 0 0        | to    | 0 0     | 30 0       | to    | 0 0     | SEAL, yellow to tinged brown .....    | 0 0        | to   | 0 0     | 0 0        | to   | 0 0     |
| Anise-seed, star .....              | 7 9        | ..    | 8 0     | 7 7        | ..    | 7 8     | SPERM .....                           | 73 0       | ..   | 0 0     | 70 0       | ..   | 72 0    |
| , German, &c. .....                 | 8 9        | ..    | 9 5     | 8 7        | ..    | 14 0    | COD .....                             | 37 0       | ..   | 0 0     | 38 0       | ..   | 39 0    |
| Bergamot .....                      | 10 3       | ..    | 0 0     | 10 3       | ..    | 0 0     | WHALE, South Sea, pale yellow .....   | 0 0        | ..   | 0 0     | 0 0        | ..   | 0 0     |
| Cajeput .....                       | 3 4        | ..    | 3 10    | 3 4        | ..    | 3 10    | brown .....                           | 0 0        | ..   | 0 0     | 0 0        | ..   | 0 0     |
| Caraway .....                       | 5 0        | ..    | 5 3     | 5 0        | ..    | 5 3     | East India, Fish .....                | 0 0        | ..   | 0 0     | 0 0        | ..   | 0 0     |
| Cassia .....                        | 4 10       | ..    | 0 0     | 4 10       | ..    | 0 0     | OLIVE, Seville .....                  | 39 0       | ..   | 0 0     | 38 10      | ..   | 39 0    |
| Cinnamon .....                      | 3 6        | ..    | 0 0     | 3 6        | ..    | 0 0     | Gioja .....                           | 0 0        | ..   | 0 0     | 0 0        | ..   | 0 0     |
| Cinnamon-leaf .....                 | 0 2 1      | ..    | 0 3     | 0 2 1      | ..    | 0 3     | Levant .....                          | 36 0       | ..   | 37 0    | 36 0       | ..   | 36 10   |
| Citronelle .....                    | 4 6        | ..    | 0 0     | 4 2        | ..    | 0 0     | Mogador .....                         | 0 0        | ..   | 0 0     | 0 0        | ..   | 0 0     |
| Clove .....                         | 5 9        | ..    | 6 9     | 5 9        | ..    | 6 6     | Spanish .....                         | 38 10      | ..   | 0 0     | 38 10      | ..   | 0 0     |
| Juniper .....                       | 1 9        | ..    | 7 6     | 3 3        | ..    | 7 6     | Sicily .....                          | 38 10      | ..   | 39 0    | 38 10      | ..   | 39 0    |
| Lavender, Exotic .....              | 3 0        | ..    | 8 0     | 6 9        | ..    | 8 6     | COCOANUT, Cocbin .....                | 35 0       | ..   | 36 0    | 36 0       | ..   | 37 0    |
| , Mitcham .....                     | 130 0      | ..    | 0 0     | 130 0      | ..    | 0 0     | Ceylon .....                          | 31 10      | ..   | 0 0     | 30 15      | ..   | 31 5    |
| Lemon .....                         | 8 0        | ..    | 10 9    | 8 0        | ..    | 10 9    | Mauritius .....                       | 32 0       | ..   | 0 0     | 31 0       | ..   | 0 0     |
| Lemongrass .....                    | 0 2        | ..    | 0 2 1   | 0 2        | ..    | 0 2 1   | PALM, fine .....                      | 38 0       | ..   | 0 0     | 39 0       | ..   | 0 0     |
| Neroli .....                        | 8 9        | ..    | 0 0     | 8 6        | ..    | 0 0     | LINSEED .....                         | 22 7/6     | ..   | 22 15   | 21 15      | ..   | 22 7/6  |
| Nutmeg .....                        | 13 9       | ..    | 0 0     | 13 9       | ..    | 0 0     | RAPESEED, English, pale brown .....   | 33 10      | ..   | 0 0     | 33 15      | ..   | 0 0     |
| Orange .....                        | 0 0        | ..    | 0 0     | 9 10       | ..    | 12 0    | COTTONSEED .....                      | 31 10      | ..   | 0 0     | 31 15      | ..   | 0 0     |
| Otto of Roses .....                 | 15 0       | ..    | 49 0    | 33 9       | ..    | 0 0     | LARD .....                            | 29 5       | ..   | 29 15   | 28 0       | ..   | 21 0    |
| Patchouli .....                     | 1 4        | ..    | 2 6     | 1 4        | ..    | 2 6     | TALLOW .....                          | 66 0       | ..   | 67 0    | 67 0       | ..   | 68 0    |
| Peppermint :                        |            |       |         |            |       |         | TURPENTINE, American per cwt. .....   | 32 9       | ..   | 37 0    | 39 0       | ..   | 0 0     |
| American .....                      | per lb.    |       |         |            |       |         | PETROLEUM, refined .. per gall. ..... | 0 6 1/2    | ..   | 0 6 3/2 | 0 7 2/2    | ..   | 0 7 1/2 |
| (H.G. Hotchkiss) .....              | 11 6       | ..    | 12 6    | 11 6       | ..    | 12 6    | Spirit .....                          | 0 7        | ..   | 0 7 1/2 | 0 7 1/2    | ..   | 0 8     |
| English .....                       | 12 6       | ..    | 13 0    | 12 6       | ..    | 13 0    |                                       |            |      |         |            |      |         |
| German .....                        | 33 6       | ..    | 0 0     | 33 0       | ..    | 37 0    |                                       |            |      |         |            |      |         |
| Japan .....                         | 18 0       | ..    | 15 0    | 15 0       | ..    | 15 3    |                                       |            |      |         |            |      |         |
| Rosemary .....                      | 7 0        | ..    | 9 0     | 7 0        | ..    | 9 0     |                                       |            |      |         |            |      |         |
| Sassafras .....                     | 1 6        | ..    | 3 9     | 1 6        | ..    | 3 9     |                                       |            |      |         |            |      |         |
| Spearmint .....                     | 3 0        | ..    | 0 0     | 3 0        | ..    | 0 0     |                                       |            |      |         |            |      |         |
| Thyme .....                         | 5 0        | ..    | 6 0     | 5 0        | ..    | 5 6     |                                       |            |      |         |            |      |         |
| Mace, expressed .....               | 0 0        | ..    | 0 0     | 9 0        | ..    | 10 0    |                                       |            |      |         |            |      |         |
| OPUM, Turkey .....                  | per oz.    |       |         |            |       |         |                                       |            |      |         |            |      |         |
| , inferior .....                    | 18 0       | ..    | 21 0    | 19 0       | ..    | 22 0    |                                       |            |      |         |            |      |         |
| , superior .....                    | 15 0       | ..    | 17 6    | 16 0       | ..    | 18 6    |                                       |            |      |         |            |      |         |
| QUASSIA (bitter wood) .....         | per ton    |       |         |            |       |         |                                       |            |      |         |            |      |         |
| RHUBARB, China, good and fine ..... | per lb.    |       |         |            |       |         |                                       |            |      |         |            |      |         |
| Middling to fair .....              | 2 4        | ..    | 3 9     | 2 4        | ..    | 3 9     |                                       |            |      |         |            |      |         |
| , middling .....                    | 1 3        | ..    | 2 3     | 1 3        | ..    | 2 3     |                                       |            |      |         |            |      |         |
| ROOTS—Calumba .....                 | per cwt.   |       |         |            |       |         |                                       |            |      |         |            |      |         |
| China .....                         | 30 0       | ..    | 40 0    | 90 0       | ..    | 90 0    |                                       |            |      |         |            |      |         |
| Chiretta .....                      | 22 0       | ..    | 24 0    | 30 0       | ..    | 35 0    |                                       |            |      |         |            |      |         |
| Cus-Cus .....                       | 0 3 1/2    | ..    | 0 4     | 3 0        | ..    | 3 6     |                                       |            |      |         |            |      |         |
| Galangal .....                      | 10 0       | ..    | 11 0    | 20 0       | ..    | 21 0    |                                       |            |      |         |            |      |         |
| Gentian .....                       | 20 0       | ..    | 23 0    | 20 0       | ..    | 23 0    |                                       |            |      |         |            |      |         |
| Orris .....                         | 21 0       | ..    | 22 0    | 19 0       | ..    | 20 0    |                                       |            |      |         |            |      |         |
| Pellitory .....                     | 23 0       | ..    | 50 0    | 23 0       | ..    | 50 0    |                                       |            |      |         |            |      |         |
| Pink .....                          | 42 0       | ..    | 60 0    | 42 0       | ..    | 60 0    |                                       |            |      |         |            |      |         |
| Rhatany .....                       | 0 0        | ..    | 0 0     | 0 0        | ..    | 0 0     |                                       |            |      |         |            |      |         |
| Teneke .....                        | 0 2        | ..    | 0 4     | 0 5        | ..    | 0 6     |                                       |            |      |         |            |      |         |
| Snake .....                         | 2 5        | ..    | 2 8     | 2 5        | ..    | 2 8     |                                       |            |      |         |            |      |         |
| SAFFRON, Valencia .....             | 1 6 1/2    | ..    | 1 9     | 1 6 1/2    | ..    | 1 9     |                                       |            |      |         |            |      |         |
| Alicante .....                      | 49 0       | ..    | 52 0    | 45 0       | ..    | 50 0    |                                       |            |      |         |            |      |         |
| SARASPARILLA, Lima .....            | 0 5 1/2    | ..    | 1 0     | 0 5 1/2    | ..    | 1 0     |                                       |            |      |         |            |      |         |
| Gnayaquil .....                     | 1 4        | ..    | 1 7     | 1 4        | ..    | 1 7     |                                       |            |      |         |            |      |         |
| Honduras .....                      | 1 4        | ..    | 1 8     | 1 4        | ..    | 1 8     |                                       |            |      |         |            |      |         |
| Jamaica .....                       | 1 6        | ..    | 2 1     | 1 6        | ..    | 2 1     |                                       |            |      |         |            |      |         |
| SASSAFRAS .....                     | 0 0        | ..    | 0 0     | 0 0        | ..    | 0 0     |                                       |            |      |         |            |      |         |
| SCAMMONY, Virgin .....              | 30 0       | ..    | 32 0    | 30 0       | ..    | 40 0    |                                       |            |      |         |            |      |         |
| , second and ordinary .....         | 10 0       | ..    | 28 0    | 10 0       | ..    | 28 0    |                                       |            |      |         |            |      |         |
| SENNA, Bombay .....                 | 0 0        | ..    | 0 0     | 0 0        | ..    | 0 0     |                                       |            |      |         |            |      |         |
| Tinnivelli .....                    | 0 1 1/2    | ..    | 1 2     | 0 1 1/2    | ..    | 1 2     |                                       |            |      |         |            |      |         |
| Alexandria .....                    | 0 1 1/2    | ..    | 1 0     | 0 1 1/2    | ..    | 1 0     |                                       |            |      |         |            |      |         |
| SPERMACECTI, refined .....          | 0 10       | ..    | 1 0     | 1 3        | ..    | 0 0     |                                       |            |      |         |            |      |         |
| American .....                      | 0 9        | ..    | 0 0     | 0 9 1/2    | ..    | 0 0     |                                       |            |      |         |            |      |         |
| SQUILLS .....                       | 0 0 2      | ..    | 0 1 1/2 | 0 1        | ..    | 0 2 1/2 |                                       |            |      |         |            |      |         |
| GUMS.                               |            |       |         |            |       |         |                                       |            |      |         |            |      |         |
| AMMONIACI, drop .....               | per cwt.   |       |         |            |       |         |                                       |            |      |         |            |      |         |
| , fine washed .....                 | 1 10       | ..    | 2 10    | 1 10       | ..    | 2 10    |                                       |            |      |         |            |      |         |
| , sorts .....                       | 17 0       | ..    | 18 10   | 17 10      | ..    | 19 10   |                                       |            |      |         |            |      |         |
| ARABIC, pale picked .....           | 11 10      | ..    | 14 10   | 11 0       | ..    | 14 0    |                                       |            |      |         |            |      |         |
| , sorts, mid. to fine .....         | 1 12       | ..    | 2 3     | 1 16       | ..    | 2 5     |                                       |            |      |         |            |      |         |
| TURKEY, pick. gd. to fin. .....     | 1 9        | ..    | 1 15    | 1 9        | ..    | 1 15    |                                       |            |      |         |            |      |         |
| , second & inferior .....           | 5 10       | ..    | 8 10    | 5 10       | ..    | 8 10    |                                       |            |      |         |            |      |         |
| , sorts .....                       | 2 5        | ..    | 5 0     | 2 5        | ..    | 5 0     |                                       |            |      |         |            |      |         |
| ASSAFETIDA, cm. to fin. .....       | 2 0        | ..    | 2 10    | 2 0        | ..    | 2 10    |                                       |            |      |         |            |      |         |
| BENJAMIN, Siam, 1st & 2nd .....     | 0 10       | ..    | 4 0     | 0 10       | ..    | 4 0     |                                       |            |      |         |            |      |         |
| Sumatra .....                       | 15 0       | ..    | 30 0    | 15 0       | ..    | 30 0    |                                       |            |      |         |            |      |         |
| COPAL, Manilla .....                | 5 0        | ..    | 10 10   | 5 0        | ..    | 10 10   |                                       |            |      |         |            |      |         |
| Angola, red .....                   | 145 0      | ..    | 152 6   | 145 0      | ..    | 152 6   |                                       |            |      |         |            |      |         |
| DAMMAR, pale .....                  | 90 0       | ..    | 95 0    | 80 0       | ..    | 90 0    |                                       |            |      |         |            |      |         |
| EUPHORBIUM .....                    | 17 0       | ..    | 20 0    | 17 0       | ..    | 20 0    |                                       |            |      |         |            |      |         |
| GALBANUM .....                      | 0 3        | ..    | 0 10    | 0 3        | ..    | 0 10    |                                       |            |      |         |            |      |         |
| GAMBOGE, picked pipe .....          | 260 0      | ..    | 320 0   | 260 0      | ..    | 320 0   |                                       |            |      |         |            |      |         |
| GUAIACUM .....                      | 0 9 1/2    | ..    | 2 0     | 0 9 1/2    | ..    | 2 0     |                                       |            |      |         |            |      |         |
| KINO .....                          | 50 0       | ..    | 54 0    | 55 0       | ..    | 60 0    |                                       |            |      |         |            |      |         |
| KOWRIE, sorts .....                 | 50 0       | ..    | 60 0    | 60 0       | ..    | 72 6    |                                       |            |      |         |            |      |         |
| selected .....                      | 100 0      | ..    | 240 0   | 12 2 6     | ..    | 240 0   |                                       |            |      |         |            |      |         |
| MASTIC, picked .....                | 2 6        | ..    | 3 6     | 2 6        | ..    | 3 6     |                                       |            |      |         |            |      |         |
| MYRRH, good and fine per cwt. ..... | 120 0      | ..    | 190 0   | 120 0      | ..    | 190 0   |                                       |            |      |         |            |      |         |
| , ordinary to fair .....            | 75 0       | ..    | 117 6   | 72 6       | ..    | 117 6   |                                       |            |      |         |            |      |         |
| OLIBANUM, p. drop .....             | 49 0       | ..    | 64 0    | 43 0       | ..    | 53 0    |                                       |            |      |         |            |      |         |
| , amber & yellow .....              | 44 0       | ..    | 48 0    | 38 0       | ..    | 42 0    |                                       |            |      |         |            |      |         |
| SENGAL .....                        | 0 0        | ..    | 0 0     | 0 0        | ..    | 0 0     |                                       |            |      |         |            |      |         |
| SANDARAC .....                      | 100 0      | ..    | 125 0   | 90 0       | ..    | 110 0   |                                       |            |      |         |            |      |         |
| , Liver .....                       | 117 6      | ..    | 127 6   | 120 0      | ..    | 127 6   |                                       |            |      |         |            |      |         |
| , in sorts .....                    | 89 0       | ..    | 105 0   | 82 0       | ..    | 107 6   |                                       |            |      |         |            |      |         |
| TRAGACANTH, leaf .....              | 280 0      | ..    | 400 0   | 280 0      | ..    | 400 0   |                                       |            |      |         |            |      |         |
| , in sorts .....                    | 20 0       | ..    | 270 0   | 20 0       | ..    | 270 0   |                                       |            |      |         |            |      |         |
| OILS.                               | £ s.       | £ s.  | £ s.    | £ s.       | £ s.  | £ s.    |                                       |            |      |         |            |      |         |
| SEAL, pale .....                    | 36 0       | ..    | 0 0     | 35 10      | ..    | 36 0    |                                       |            |      |         |            |      |         |



## CITRATE OF IRON AND QUININE PILLS.

To The Chemist and Druggist—

SIR.—“Medicine nil a me alienum puto.” As I have great confidence in the composition of quinine and iron, known as “*citras ferri et quinie*,” as a general tonic in cases of general debility, more especially those accompanied by anæmia in young patients; and as such patients object very much to its extreme bitterness, I have been seeking for years some means of making this substance into pills. I published some time since in your pages a formula for such, using castor oil in forming the pill mass. This use of castor oil gave a better result than any previously known; but the result was not altogether satisfactory, so I have been searching for a better, and have at length found what I believe is a very perfect formula. It is the following:—

|                           |    |    |    |    |               |
|---------------------------|----|----|----|----|---------------|
| Citras ferri et quinie .. | .. | .. | .. | .. | 5 <i>ij.</i>  |
| Ext. nuci vomicae ..      | .. | .. | .. | .. | about xv. gr. |
| Cerae albae ..            | .. | .. | .. | .. | 5 <i>j.</i>   |

Rub the citrate into a fine powder in a mortar, and add the wax (previously melted) whilst hot, beat up into a mass with the extract of *nux vomica*; add as much good syrup as will make a proper pill mass (this mass, properly prepared as directed, can be worked up in the hand), and divide into 60 pills; each pill will contain 2 gr. cft. of quinine and iron, 1 gr. of wax, and  $\frac{1}{2}$  gr. of ext. *nux vomica*. The proportion of this latter can, of course, be diminished in the case of younger patients, or any better extract may be substituted—extract gentian, for example.

I have found this formula perfectly satisfactory in making thin refractory substances into pills. On putting one of these pills into cold water it will sink to the bottom; after some hours it will float, and the water becomes bitter and the pill itself crumbles on slightest pressure, from which I infer that it will be perfectly soluble in the patient’s stomach.

I am, sir, yours truly,  
Smyrna, October 15. JAMES McCRAITH, M.D., F.R.C.S.

## Pharmaceutical Education.

To The Chemist and Druggist—

SIR.—Will you permit me to make a few observations upon the above subject, in which I am sure many of your readers will concur; and I especially crave your leave to do so as it is against the notions of English freedom to be compelled to submit to things they think unfair without being allowed to raise their voices in dissent.

That chemists and druggists should possess knowledge which befits them for their calling is a matter of public importance; and the public will at once see the necessity of a chemist understanding sufficient of chemistry and the allied sciences to ensure his correct manipulation of prescriptions committed to his charge; but what good the Pharmaceutical Society can see in making it compulsory to *crem* into one’s head the composition of 22 pills, 35 ointments, 64 tinctures, 29 infusions, and a host of other similar things I am quite at a loss to perceive (without it is the incapability of setting something more useful). That one should be aware of the quantity of opium and such-like active drugs in preparations into which they enter, is also requisite; but that the candidate should be obliged to learn that compound colocynth pill contains 1 oz. of colocynth pulp, 2 oz. of Barbados aloes, 2 oz. of scammony,  $\frac{1}{2}$  oz. of sulphate of potash, and sufficient water to make it into a mass; that compound gamboge pill contains 1 oz. of gamboge in powder, 1 oz. of Barbados aloes, 1 oz. of compound powder of cinnamon, 2 oz. of hard soap, a sufficient syrup, &c.; compound tincture of lavender— $\frac{1}{2}$  drachms of oil of lavender, 10 minimis of oil of rosemary, 150 grains of bruised cinnamon bark, 300 grains of red sandal-wood, and 2 pints of rectified spirit, &c., is, I emphatically state, *unnecessary* *crem*, a waste of brain energy, and a disgrace to the Society.

There is a book published, called the “British Pharmacopeia,” containing these formulae, to which one is supposed to refer, and I can only state that if on taking a prescription to be dispensed the dispenser made it from memory, I certainly should, next time, take it to someone not quite so clever.

The very large number of candidates that fail, especially the first time, naturally creates astonishment. Perhaps it may suit the purpose (it is certainly to the pecuniary benefit) of the Pharmaceutical Society that students shall fail the first time. If, however, such is the intention of the Society it certainly is not calculated to increase its popularity with the trade at large.

I am, very obediently yours,

AN ADVOCATE FOR REFORM. (7/39.)

142 Vauxhall Bridge Road, S.W., October 21.

[We should like to get some official or non-official information on the point suggested by this correspondent. If it is the case that candidates who may have a good general knowledge of the Pharmacopœia formulae

lose marks if they are unable to repeat any such formula by rote, we agree with our correspondent that the examiners encourage a system of quite unnecessary and pernicious cram.—ED. C. & D.]

36/47. Copying Documents.—J. M. P. asks for a writing ink which will give five or six copies. He can get one good copy, but fails to obtain more. In copying there are two factors—the ink and the material on which the copy is taken. The gelatine copying-surfaces absorb the ink, and yield it, little by little, till it is all exhausted. The paper used in copying books exhausts at once all the ink, yielding only one copy. It is in the copying material that the improvement is required, and theory seems to suggest that a slightly less absorbent paper should be used. This might, perhaps, be obtained by steeping the paper in solution of aluminium sulphate. To avoid blurring pressure must, of course, be very carefully applied when several copies are required.

11/41. W. R. S.—The recipe you send contains none of the scheduled poisons. Therefore it may be legally prepared and sold by anyone, whether he be a registered chemist and druggist or not. 2. A tin of paint exposed near horse powders for two months would be extremely likely to impregnate them with a smell of paint.

20/38. Take’n Back.—We were not aware that sugar was used as an adulterant in fancy soaps. We presume that the presence of sugar was suspected in this sample owing to its having charred on exposure to the flame. “Take’n Back” might push his pharmaceutical chemistry a step further, and ascertain how many kinds of fancy soaps act in this way and also the various ingredients which generally enter into these soaps, and possibly he might discover something definite and important in so doing.

W. L. A. wants to make alcoholic extract solid and liquid, and asks us what apparatus he should obtain.

The kind of apparatus would very much depend upon the quantity operated upon. Some of the scientific apparatus manufacturers who from time to time advertise in our columns might advantageously be consulted in the matter.

40/68. J. W.—Marking-ink to use with Stamp.—The following formula, by Dr. Jacobson, for aniline black marking-ink might be tried. The ink is prepared by means of two solutions, as follows:—

| Copper solution—                   | Grammes      |
|------------------------------------|--------------|
| Crystallised chloride of copper .. | 8 <i>sz</i>  |
| Chlorate of soda ..                | 10 <i>65</i> |
| Chloride of ammonium ..            | 5 <i>35</i>  |

Dissolved in 60 grammes water.

| II.   | Grammes |
|---|---------|
| Aniline solution—   |         |
| Hydrochlorate of aniline ..                                 | 20      |
| Dissolved in 30 grammes distilled water; to this are added— |         |
| Solution of gum arabic ..                                   | 20      |
| Glycerine ..  | 10      |

The mucilage may be made 1 part of gum to 2 parts water, but this may be varied to suit the stamp used. This ink can only be kept a few days without decomposition.

43/69. Inquirer.—No examination whatever, of any kind, conducted by any other body is accepted by the Pharmaceutical Society as a substitute for either the Minor or Major.

28/42. Scotus.—To discover the adulteration of potass. iodid. with potass. nitr. we should think some such method as the following would answer, but we have not actually experimented:—Decompose carefully the iodide by throwing it down as an insoluble precipitate, filter and test the filtrate for a nitrate in the usual manner; or decompose the iodide by means of a stronger acid, and drive off the free iodine by the aid of heat, &c.

Quinetum is professedly the total alkaloids extracted from the cinchona succirubra, and consequently no individual test would indicate characteristically its presence. The detection of foreign alkaloids in sulphate of quinine has received much attention, but probably no better test can be readily applied than that of the British or German Pharmacopœia.

6/41. Q. in the Corner.—Milk of Roscs.—This formula is given in Kilner’s “Compendium” :—

|                       |    |    |    |    |    |           |
|-----------------------|----|----|----|----|----|-----------|
| Tinct. benzoini ..    | .. | .. | .. | .. | .. | 1 oz.     |
| Muriate of ammonia .. | .. | .. | .. | .. | .. | 2 drachms |
| Rose water ..         | .. | .. | .. | .. | .. | 7 oz.     |

Mix. To be applied at night. Useful to remove freckles and improve the complexion.

40/12.—*Amicus*.—**Tinct. of Myrrh and Borax and Eau de Cologne.** The subjoined formula is from *The Chemists' and Druggists' Diary* for 1873:—

|  |            |
|--|------------|
| Borax, myrrh, red sanders, and sugar (of each) | 150 grains |
| Eau de Cologne .. .. .. .. ..                  | 2½ oz.     |
| Rectified spirit .. .. .. .. ..                | 6½ oz.     |
| Water .. .. .. .. ..                           | 3½ oz.     |

Macerate the myrrh and sandal wood in the alcohol, add the eau de Cologne, and lastly mix in the water in which the borax and sugar have been dissolved.

The following is a formula for **Dental Tincture of Myrrh**:—

|  |            |
|--|------------|
| Mace .. .. .. .. ..                                  | 50 grains  |
| Myrrh, cloves, rhubarb root (of each) .. .. .. .. .. | 250 grains |
| Rectified spirit .. .. .. .. ..                      | 12 oz.     |

The following formula for **Lavender Water**, recommended by Dr. Bering, of Bromberg, is said to yield a superior product:—

I.

|                                      | Grains  |
|--------------------------------------|---------|
| Ceylon cinnamon .. .. .. .. ..       | 125     |
| Cloves .. .. .. .. ..                | 250     |
| Florentine orris root .. .. .. .. .. | 500     |
| Grains d'Ambrette .. .. .. .. ..     | 500     |
| Orange peel, fresh .. .. .. .. ..    | 125     |
| Coriander .. .. .. .. ..             | 125     |
| Musk .. .. .. .. ..                  | 1 to 1½ |

Are digested for eight days in 5½ oz. of grape spirit, with frequent agitation. The liquid is then filtered, and to the filtrate are added—

|  | Grains |
|--|--------|
| Balsam of Peru .. .. .. .. ..              | 120    |
| Oil of lavender, finest .. .. .. .. ..     | 375    |
| Oil of bergamot .. .. .. .. ..             | 250    |
| Musk .. .. .. .. ..                        | 1½     |
| Orange flower water, triple .. .. .. .. .. | 45     |
| Rose water .. .. .. .. ..                  | 45     |

Leave standing for at least three months, then filter and bottle.

Subjoined is another formula—

II.

|  |             |
|--|-------------|
| Oil of bergamot .. .. .. .. ..         | 250 minimis |
| „ lemon .. .. .. .. ..                 | 125 "       |
| Balsam of Peru .. .. .. .. ..          | 125 "       |
| Oil of lavender, finest .. .. .. .. .. | 63 "        |
| „ cloves .. .. .. .. ..                | 63 "        |
| Grape spirit .. .. .. .. ..            | 10½ oz.     |

39/68.—*A. H.*—**Steamy Windows.**—We are obliged to you for your note. The information it contains was published in this journal in May, 1880, and was repeated in an editorial article last December. It is very doubtful whether it will answer its purpose. The true cause of steamy windows is the combustion of gas and the escape of the products of combustion into the window. If means are adopted to convey away effectually the products of combustion, the window would never get steamy however warm the room became. The use of oil lamps, or of the electric light, would prevent the annoyance; an opening from the window to the air outside, allowing ventilation, has been found to check it.

38/37.—*Subscriber, Canterbury, New Zealand.*—**Black Printing Ink.**—We take the following information from Spon's "Encyclopaedia of the Industrial Arts," page 1,170:—

"The chief colouring matter in black printing ink is vegetable lamp-black. The price of the best qualities precludes their use, except for specially fine ink; nevertheless, good ink cannot be made with inferior samples. An undue proportion of lamp-black in the ink will cause it to smear, however long it may have been printed, and to 'set-off' during bookbinding operations. Thus, the thickest inks are not the best if the lamp-black is more than the varnish can bind. Ivory black is too heavy to be used alone; but a proportion ground up with the other ingredients makes a valuable ink for producing the best possible effect with wood engravings. Only the best and blackest is admissible. Prussian blue, ground exceedingly fine, and used sparingly, deepens the colour of ink; in excess it gives a cold appearance. Indigo may replace Prussian blue. Perhaps the blackest tint is produced by equal quantities of each. To give a rich tone and remove the coldness caused by indigo or Prussian blue, the addition of a little Indian red is strongly recommended.

The natural resinous substances employed as a source of varnish (varnish and colouring-matter are the two ingredients of printers' ink) are balsam of copaiba and Canada balsam. The former is superior, and, when old and pure, may be used without any preparation. The latter is much thicker,

and dries more quickly, and cannot, therefore, be used alone; but for a strong ink a small proportion may with advantage be added either to the balsam of copaiba or to the artificial varnish now to be described.

The basis of the artificial varnish is linseed oil, which should be as old as possible. Of all other oils the only one recommended as a substitute is nut oil. The rosin used may be either black or amber. It melts in the boiling oil and combines with it, preventing its separation from the colouring-matter and staining of the paper, and binding the ink to prevent its smearing. The properties possessed by soap, which render it such an indispensable ingredient of printing-ink, are that it causes the ink (1) to adhere uniformly to the face of the type; (2) to coat it completely with the smallest quantity; (3) to leave the face of the type clean, and attach itself to the surface of the damp paper by the action of pressure, and that repeatedly; (4) to wash easily off the type; and (5) never to skim over, however long it may be kept. For all dark inks well-dried yellow or turpentine soap may be employed; for light-tinted inks curd soap is preferable. Used in excess, soap tends (1) to render the colour unequal where a large surface is printed; (2) to spread over the edges of the types, so as to give them a rough appearance; and (3) to prevent the ink drying quickly, and cause it to 'set-off' when pressed. It is thus opposed to the binding quality of the rosin. Its due proportion is when the ink works clean without clogging.

The combination of these several ingredients is effected in the following manner:—In an iron vessel having two or three times the capacity of the materials it is to receive, put 6 quarts of linseed oil and make a fire under it. After a time, the oil simmers and bubbles up, but as the temperature increases the surface resumes placidity; next it commences to smoke, and then to boil, emitting a very strong odour; as the boiling continues a scum arises. At this stage repeated tests should be made to ascertain whether the escaping vapours will ignite. At the moment when they will do so the pot is removed from the fire and placed on the ground, and the contents stirred with an iron spatula and kept burning. The pot is covered occasionally to extinguish the flame while samples are withdrawn to test the consistence. When drops of the oil let fall upon a porcelain surface will draw out into strings about ½ inch long, the oil is suited for ink for ordinary book work. The flame is then extinguished by firmly replacing the cover. On removing it there is a great escape of strong-smelling smoke and much froth; the latter is made to subside by thorough stirring, and when this is accomplished, but not before, 6 lbs. of amber or black rosin is gradually introduced and stirred in. When the rosin is dissolved 1½ lbs. of dry brown or turpentine soap, in slices, is stirred in gradually and cautiously, as it froths copiously. When all the soap is in and the frothing has ceased, the pot is returned to the fire till its contents boil, constant stirring being maintained. This completes the varnish. Into an earthenware pot or tub, of sufficient capacity, is put 5 oz. of Prussian blue or indigo, or the two combined; then 4 lbs. of the best "mineral lamp-black" and 3½ lbs. of good lamp black; next add the varnish by degrees, while warm, stirring meantime and until all the ingredients are thoroughly mixed; finally pass it through a levigating-mill, or between the stone and muller, and reduce it to impalpable fineness.

(b) A fine, intensely black, strong ink, without the use of oil and rosin, may be made in the following manner:—Balsam of copaiba, 9 oz.; lamp-black, 3 oz.; indigo or Prussian blue, or equal proportions of each, 1½ oz.; Indian red, ½ oz.; dry turpentine soap, 3 oz.; ground between a muller and stone, to impalpable fineness. This is an excellent ink for giving good effect to highly-finished wood engravings."

42/12. *J. D.*—**Authorities on Aconites and Acconitines.**—For descriptions of medicinal aconites see "Pharmacographia" (2nd edition) and Bentley and Trimen's "Medicinal Plants." Previous investigations on the aconitines are summarised in the "Year-book of Pharmacy" for 1877. Investigations made since then are recorded in the subsequent volumes of the Year-book, which should all be consulted. Dr. Squibb, in the paper published in our last issue, states that Merck's pseudoaconitine is 83 times stronger than an aconitine of unknown source. At present there is no recognised standard, and so much confusion among commercial names that your question cannot be answered satisfactorily.

43/55. *Francis.*—The chief Paris pharmaceutical journals are the *Journal de Pharmacie et de Chimie*; the *Union Pharmaceutique*, 7 Rue de Jouy; and the *Reperatoire de Pharmacie*, 117 Rue Vieille du Temple.

**Virum.**—**Sale of Orange Wine.**—A dealer in orange wine or other sweet wines must have a wholesale licence, costing 5*l.* 5*s.*, if he sells quantities of 2 gallons or 12 bottles and upwards at one time, or one costing 1*l.* 2*s.* *0*d.**, if he sells smaller quantities. The penalty for selling without a licence is 5*l.*

We should be glad to hear from anyone who is able to furnish practical advice on the manufacture of oiled silk.

Referring to 32/55 the proprietor of Calvert's Pig-powders informs "Fidelis" that he alone holds the original formula for above, which is legally assigned to him, and that he will take action at law against any person damaging or intruding his rights.

39/55. *H. W. H.* "How to get through the Minor and Major honestly and economically, and within a reasonable time," depends on the actual state of the aspirant's education, on the extent of his abilities, on his nerve, and on the interpretation which may be put on the terms "honest, economical, and reasonable." Some people, for example, seem to think it hardly honest to study anywhere except at Bloomsbury Square. Our own preference would be to recommend an average young man to use all his opportunities to learn the science and art of his business while he is in his situation, but not to work night and day nor worry himself overmuch about his examinations. Then, when he feels himself as far acquainted with his business as he can fairly reach, let him take a course at one of the schools of pharmacy, where he will get the benefit of systematic teaching when he will be fittest to receive it. But we would not advise him to try to combine this course with a half-time situation. One thing at once, &c. The cost of board and lodging in London is much the same as elsewhere for the accommodation given.

*A. W. T. (Tokio).*—**Bay Rum.**—The latest formula we find is published in Kilner's "Compendium" as "Barber's Improved." It runs thus:—

|                       |    |    |    |    |    |    |               |
|-----------------------|----|----|----|----|----|----|---------------|
| Oil of bay ..         | .. | .. | .. | .. | .. | .. | 6 fl. drachms |
| Oil of pimento ..     | .. | .. | .. | .. | .. | .. | 1 fl. drachm  |
| Acetic ether ..       | .. | .. | .. | .. | .. | .. | 1 oz.         |
| White Castile soap .. | .. | .. | .. | .. | .. | .. | 4 drachms     |
| Alcohol ..            | .. | .. | .. | .. | .. | .. | 12 pints      |
| Water ..              | .. | .. | .. | .. | .. | .. | 10 pints      |

Mix and allow to stand one week and filter.

Barber's previous formula was—

|                                       |    |    |    |    |    |    |           |
|---------------------------------------|----|----|----|----|----|----|-----------|
| Oil of bay ..                         | .. | .. | .. | .. | .. | .. | 2 drachms |
| Alcohol ..                            | .. | .. | .. | .. | .. | .. | 2 pints   |
| Soft water ..                         | .. | .. | .. | .. | .. | .. | 5½ pints  |
| Imported bay rum ..                   | .. | .. | .. | .. | .. | .. | 8 oz.     |
| Laurel leaves, bruised (to colour) .. | .. | .. | .. | .. | .. | .. | q.s.      |

Mix the oil and alcohol, percolate the leaves, add the rest, and filter through magnesia.

For a tonic hair-wash Jaborandi is one of the latest recommendations. Here is a formula:—

|                     |    |    |    |    |    |    |           |
|---------------------|----|----|----|----|----|----|-----------|
| Glycerine ..        | .. | .. | .. | .. | .. | .. | 2 oz.     |
| Jaborandi leaves .. | .. | .. | .. | .. | .. | .. | 4 drachms |
| Cinchona bark ..    | .. | .. | .. | .. | .. | .. | 1 oz.     |
| Alcohol ..          | .. | .. | .. | .. | .. | .. | 2 oz.     |
| Bay rum ..          | .. | .. | .. | .. | .. | .. | 2 oz.     |
| Rose water ..       | .. | .. | .. | .. | .. | .. | 10 oz.    |

Coarsely powder the Jaborandi and cinchona; percolate with the alcohol, bay rum, and rose water mixed; add the glycerine to the percolate.

40/67. *Subscriber (Manchester).*—See answer to "A. W. T."

42/67. **Preliminary Examination.**—*A. B. D.* should get Ince's Latin Grammar (advertised in our Educational section), any ordinary arithmetic, and a copy of Caesar's "De Bello Gallico." The usual school books should be sufficient.

42/68. *Inq.* will find all that is known to outsiders of the composition of Siegel's syrup on page 448 of our number for October, 1880.

229/3. *W. L. A.* will find the best formula for syr. calcis lactophosph. on page 8 of our January number.

*H. A. (Oporto).*—We are informed by the firm you refer to that "the matter mentioned has been attended to."

36/43. *Vigil.*—It is a well-known Excise regulation that licences for the sale of methylated spirit are not granted to persons holding licences for the sale of spirits generally. There seems so large a degree of reason in this regulation, that we do not think any agitation against it would be likely to be successful.

You will find a large dose of information about chilblains on another page of this number.

Your other inquiry must stand over.

37/46. *Frangipanni (Brazil)* asks for a book on perfumery, giving directions for the manufacture of perfumed waters for spray-tubes and perfumed waters. Can any reader supply the information? We should imagine that "Frangipanni" might find room for enterprise in utilising the perfumes of some of his native flowers. Piesse's "Art of Perfumery" (7s. 6d. or thereabouts) is the most useful book in English on the general subject.

37/43. *Inquirer.*—Is it legal for an unqualified man to sell white and red precipitate ointment, salts of lemon, urg. hydriarg.?

[The last-named certainly. The others contain schedule poisons, but as preparations of such poisons are not stated in these, as they are in some other cases, it is most likely that the sale of them by unregistered persons would not be considered illegal.]

42/66. *Honey* wishes to know where he can obtain the 1-lb. glass honey-jars, bellied and cylindrical. Messrs. Potts & Co., Sugar Loaf Court, import the cylindrical jars.

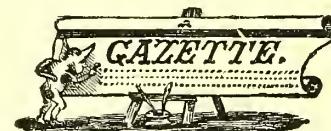
39/33. *W. L. A.* will find formulæ for compound syrup of the hypophosphites on page 511 (November number) of our last volume. He can easily add quinine and strychnine in suitable proportions. The best information we have about Parish's syrup appeared at page 463 (October) of our volume for 1880.

43/24. *G. M.*—The resins which are dissolved in linseed oil for making varnishes are copal and amber only. No others seem to be used in this way, though most would be soluble in boiling oil. The copal is melted and the boiling linseed oil is added to it in small quantities at a time, with constant stirring. The following is a form for **English Red Furniture Varnish**. If too red, part of the dragon's blood may be replaced by gamboge:—

|                           | Parts |
|---------------------------|-------|
| Sandarac ..               | 20    |
| Shellac, refined ..       | 12½   |
| Colophony ..              | 12½   |
| Dragon's blood ..         | 3     |
| Alcohol (90 per cent.) .. | 150   |

Powder the resins, add the alcohol, and digest in a water-bath till dissolved then add 2 parts Venice turpentine.

42/45. *Economist.*—We can hardly give you any definite information. Lodgings in London vary all the way from 4d. per night to 10 guineas per week. Situations fulfilling the conditions you postulate are not a marketable commodity at fixed quotations. We should think such a situation would not be easily found. See answer to W. H. H. For books see Mr. Kimpton's advertisement in this journal.



#### BANKRUPTS.

**PILLING, WILLIAM**, Holly Bank, Eccles New Road, and 8 New Bailey Street, Salford, chemist and druggist, also stench-trap manufacturer, under firm of A. Lowe & Co. October 26.

**SHAW, WILLIAM HENRY**, Fenay Bridge, near Huddersfield, manufacturing chemist. August 23.

#### LIQUIDATIONS.

**BANTOCK, JAMES WILLIAM**, 29 Threadneedle Street, London, chemist. October 27.

**COLLIS, SAMUEL**, Cheadle, chemist, druggist, and grocer. October 12.

**FELTHOUSE, FANNY**, Market Street and George Street, Tamworth, grocer and provision dealer and chemist and druggist, under style of Charles Felthouse. October 24.

**HENDERSON, CHRISTOPHER**, Market Street, Hoylake, and West Kirby Village, chemist, druggist, and grocer. October 17.

**HOLDCROFT, GEORGE**, 16 Oxford Road, Islington, chemist. October 3.

#### PARTNERSHIPS DISSOLVED.

**TIDMAN & SON**, Wilson Street, Finsbury, manufacturing chemists and dealers in sea salt. September 30. (Joseph Wesley Fox and William Tidman.) Debts by Fox.

**TURNER, GEORGE THOMAS**, White Ladies' Gate, Bristol, chemists. October 3. (John Hopper Baker and George Thomas Turner.) Debts by Turner.

# ZINCI OXYD. PUR.

(HARRIS'S),

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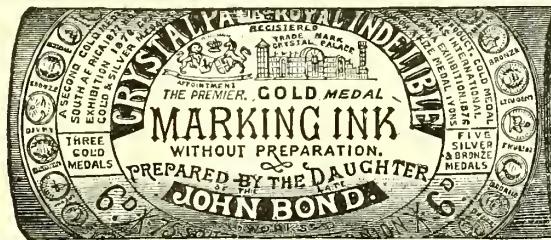
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| "    Sodium .....             | 1340·7   | 715·35          | 1579·57        |
| Ammonia (free) .....          | 0·3      | .....           | trace          |
| Sulphate Potassium .....      | 3·5      | 25·18           | 7·16           |
| "    Calcium .....            | 185·6    | 171·30          | .....          |
| Chloride of Sodium .....      | 301·3    | 997·22          | 105·31         |
| Bicarbonate   " .....         | 140·3    | .....           | 51·52          |
| Carbonate Calcium .....       | 1·9      |                 |                |
| "    Magnesium .....          | 12·0     | 21·02           | 80·51          |
| "    Iron .....               | 3·5      |                 |                |
| Alumina .....                 | 5·6      | .....           | 0·29           |
| Nitrates (minute trace) ..... | .....    | .....           | .....          |
| Silica .....                  | 1·6      | 4·40            | 0·80           |
| Bromide Magnesium .....       | .....    | 2·75            | .....          |
| Chloride   " .....            | .....    | 501·14          | .....          |
| Carbonate Strontium .....     | .....    | .....           | 2·0            |
| Total .....                   | 3746·6   | 3079·74         | 3370·66        |

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| 2/9.. Ditto                           | .18/       | 3/0.. Ditto                      | .26/                     | 1/9.. , de Georgé                | .13/                         | 2/9.. Vallet's Pills             | .24/             |
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One of the most effective combinations in Dyspepsia, Cholera Infantum, and all diseases resulting from imperfect nutrition.

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This Preparation is lighter and more acceptable to some stomachs, and is recommended only in such cases.

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One of the most valuable combinations in cases of General Debility, when there is a deficient nutrition and a deficiency of Iron in the system.

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A powerful nutritive, general and nervous tonic.

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A powerful, general, and nutritive tonic.

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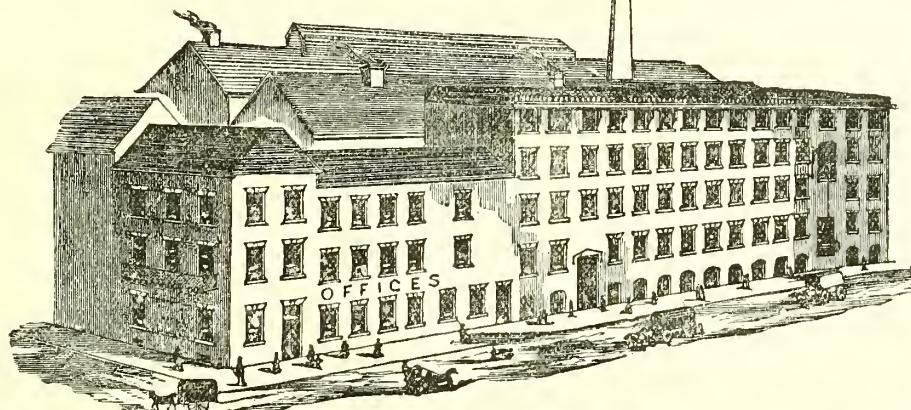
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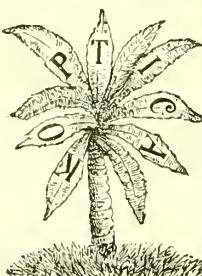
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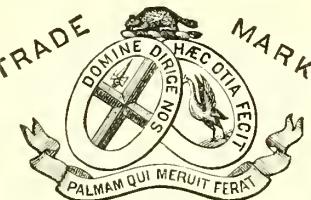
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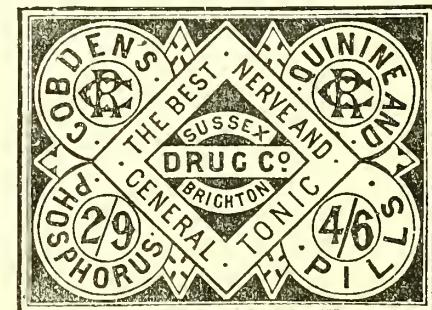
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THE ORIGINAL AND ONLY GENUINE.

## IMPORTANT CAUTIONS

From Lord Chancellor SELBORNE, Vice-Chancellor Sir W. PAGE WOOD,  
and the LORDS JUSTICES OF APPEAL.

VICE-CHANCELLOR SIR W. PAGE WOOD, by whom the suit in Chancery was first heard, stated in his judgment that 'Dr. J. Collis Browne was undoubtedly the Inventor of Chlorodyne, that the whole story of the Defendant Freeman was as deliberately untrue as the falsehood he had deposed to with reference to the use of his Chlorodyne in the Hospital.'

The VICE-CHANCELLOR also stated, 'that Chlorodyne was a fanciful name, and had application been made sooner, the Court would have given Dr. Browne protection.'

LORD CHANCELLOR SELBORNE coincided with the judgment of the Vice-Chancellor upon this point, and stated 'that had application been made at a proper time and place, the Court would have found means to restrain the Defendant from misrepresenting the decision of the Vice-Chancellor.'

LORD JUSTICE JAMES, on appeal, stated in his judgment, 'that the Defendant Freeman had made a deliberate misrepresentation of the decision of Vice-Chancellor Wood.'

It was proved in Court, on affidavit by Mrs. Forbes, of Paris, that the testimonial published in the *Times*, November 14th 1865, speaking of the great efficacy of Chlorodyne in Cholera, referred to Dr. J. Collis Browne's Chlorodyne, and that she never used any other, that she had written to the Defendant Freeman to that effect; notwithstanding which notice the Defendant publishes the said testimonial as referring to his medicine.

The Editor of the *Medical Times*, in his report on Chlorodyne, January 13th, 1866, gives information that the Chlorodyne referred to was the medicine introduced by a retired Army Medical Officer, which was Dr. J. Collis Browne; still this is published by the Defendant as testimony to his medicine.

Numerous affidavits from eminent Physicians and others were produced in Court, stating that Dr. J. Collis Browne was the inventor of Chlorodyne, and that when prescribing they mean no other.

The Defendant himself publishes that his compound is in effect and composition quite different to any other preparation nevertheless he assumes the name, testimonials, &c., of Chlorodyne.

Technicalities in law prevent that protection which the public should justly have against such a course of conduct. It is now incumbent on all who purchase Chlorodyne to see that the name, 'Dr. J. Collis Browne's Chlorodyne,' is engraved on the Government Stamp, as it is not sold otherwise. All other compounds under the name of Chlorodyne are spurious. All attempts at analysis have failed; hence the statement that the constituents of Chlorodyne are known is a misrepresentation.

From SYMES & Co., Pharmaceutical Chemists, Medical Hall, Simla,  
January 5, 1880.

To J. T. DAVENPORT, Esq., 33 Great Russell Street, Bloomsbury, London.

DEAR SIR,—Have the goodness to furnish us with your best quotations for Dr. J. Collis Browne's Chlorodyne, as, being large buyers, we would much prefer doing business with you direct than through the wholesale houses. We embrace this opportunity of congratulating you upon the wide-spread reputation this justly-esteemed medicine has earned for itself, not only in Hindostan, but all over the East. As a remedy of general utility, we much question whether a better is imported into the country, and we shall be glad to hear of its finding a place in every Anglo-Indian home. The other brands, we are happy to say, are now relegated to the native bazaars, and, judging from their sale, we fancy their sojourn there will be but evanescent. We could multiply instances *ad infinitum* of the extraordinary efficacy of Dr. Collis Browne's Chlorodyne in Diarrhoea and Dysentery, Spasms, Cramps, Neuralgia, the Vomiting of Pregnancy, and as a general sedative, that have occurred under our personal observation during many years. In Choleraic Diarrhoea, and even in the more terrible forms of Cholera itself, we have witnessed its surprisingly controlling power. We have never used any other form of this medicine than Collis Browne's, from a firm conviction that it is decidedly the best, and also from a sense of duty we owe to the profession and the public, as we are of opinion that the substitution of any other than Collis Browne's is a deliberate breach of faith on the part of the chemist to prescriber and patient alike.

We are, Sir, faithfully yours,

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| Copaiha, Alum and Cubehs .....                                      | 7/-          | 2/-        |
| Compound Ferruginous .....  | 7/-          | 2/-        |
| Cubeh Oil .....   | 11/-         | 2/6        |
| Male Fern Oil .....   | 12/-         | 3/-        |
| Cod Liver Oil .....   | 6/-          | 1/6        |
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May be prescribed with most substances compatible with Acids. In 4 oz., 8 oz., and 16 oz. Bottles, and in Bulk.

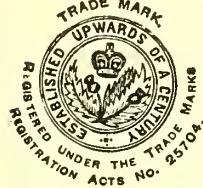
MESSRS. BULLOCK & CO. beg to direct attention to a paper on "Medicinal Pepsine and Artificial Digestion," in the *Practitioner* for March, 1880 by G. F. DOWDESWELL, Esq., B.A. (Cantab.), F.C.S., F.L.S., &c. Upwards of 200 experiments made by the Author proved the great superiority of BULLOCK'S PEPSINA PORCI and ACID GLYCERINE OF PEPSINE over every other Pepsine or Preparation of Pepsin, English, French, German, or American, and confirmed the equally favourable reports of Dr. PAYV (1863), Professor TUSON (1870), and the late Professor GARROD (1878), as to the pre-eminent digestive value of Bullock's Pepsina Porci.PEPSINE WINE, PEPSINE PILLS. PEPSINE LOZENGES, PEPSINE AND CHARCOAL LOZENGES,  
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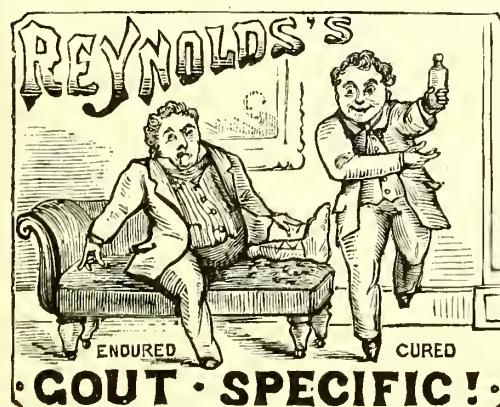
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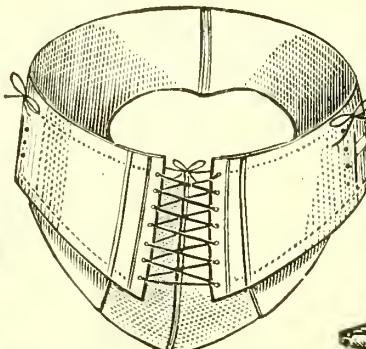
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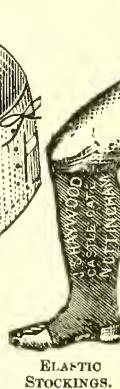
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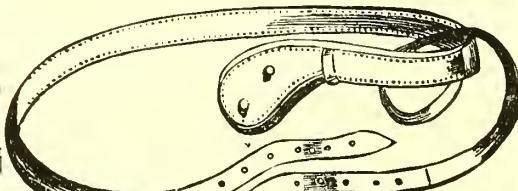
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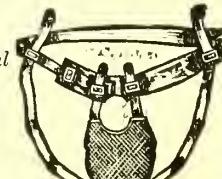


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THE "TIMES," AUGUST 13th, 1877.

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CARRIAGE PAID TO ALL PARTS OF THE BRITISH ISLES.

Admirably adapted for all ordinary ailments among Stock, and each preparation can be had separately. Full and easy directions enclosed.

Awarded “Certificate of Merit” by the National Agricultural Society of Victoria, Australia, 1871; President's Medal, Spalding, 1872; Silver Medal, Manchester and Salford Show, 1874; Silver Medal, Preston, 1875; Silver Medal, Northamptonshire Agricultural Society, Stamford, 1875; Silver Medal, Cheshire Agricultural Society, Crewe, 1875; Special Prize, National Agricultural Society of Victoria, Australia, 1875; Medal, Cheshire Agricultural Society, Chester, 1876; Silver Medal, South African Exhibition, Cape Town, 1877; Silver Medal, Northumberland Agricultural Society, Newcastle-on-Tyne, 1877; Silver Medal, Knutsford, 1878; Medal, North Berwick, 1878; Medal, Dairy Show, London, 1878; Silver Medal, Derby, 1879; Silver Medal, Wellington, 1879; Medal, Bentham, 1880; Medal, Melbourne Exhibition, 1880; and Silver Medal, Stourbridge, 1881.

CAUTION.—Beware of Imitations, and see that the name of DAY, SON & HEWITT is on all Bottles and Packets.

Prepared only by DAY, SON & HEWITT, 22 DORSET STREET, BAKER STREET, LONDON. W.

And sold by Messrs. Burgoine, Buridges & Co., Barclay & Sons, W. Edwards, Newbery & Sons, Sanger & Sons, Hovenden & Sons, and all Wholesale Druggists, in London: Hood & Co., Melbourne; Kempthorne, Prosser & Co., Dunedin and Auckland; Fairthorne & Co., Launceston.

## HORSES.—LIEUT. JAMES' BLISTER

(Manufactured by R. J. JAMES, the Grandson of the Inventor).



THIS CELEBRATED BLISTER IS NOW OFFERED TO THE TRADE AT THE FOLLOWING REDUCED PRICES:—

|                 |                  |               |                 |                    |        |
|-----------------|------------------|---------------|-----------------|--------------------|--------|
| 1 oz. pots from | 14/- per doz. to | 12/- per doz. | 1 lb. pots from | £4 4/- per doz. to | £2 0/- |
| 2 "             | £1 5 6 "         | £1 3 0 "      | 1 "             | 7 16 0 "           | 7 10 0 |
| 4 "             | 2 8 0 "          | 9 4 0 "       |                 |                    |        |

Observe the Trade Mark.—“A Horse's Head on the top of each Pot, and the signature, R. J. James.”

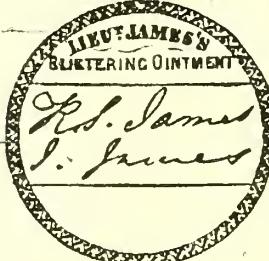
Wholesale Agents, FUTLER & CRISP, 4 Cheapside; NEWBERY, 37 Newgate Street; MAW, SON & THOMPSON, 11 Aldersgate Street; HAYES & CO., Dublin; GOULDING, Cork; FOGGITT, Thirsk; and SANG & BARKER, Edinburgh. Agents for the Colonies required. Apply, with reference, to R. J. JAMES, 15 Union Bank Buildings, Ely Place, Loudon, E.C.

JAMES v. JAMES.—LORD RONNELL, the Master of the Rolls, on February 23, 1872, declared “that I had an equal right with other members of the Inventor's family possessing the receipt to make and sell this Blister.”—R. J. JAMES.

## ESTABLISHED 1833. HORSES.—LIEUT. JAMES'S BLISTER.

### CAUTION.

The annexed Label is at the top of every Pot of the ORIGINAL and only GENUINE BLISTER.



AGENTS:—Sutton & Co., 10 Bow Churchyard; W. Edwards & Son, 157 Queen Victoria Street; Newbery & Son, 37 Newgate Street; Evans, Leschen & Evans, Bartholomew Close; Burgoine, Buridges & Co., 18 Coleman Street; Lynch & Co., 171A Aldersgate Street; W. Mather, Farrington Road, London, and Manchester; R. Hovenden & Sons, 93 & 15 City Road, Finsbury; Sanger & Son, 150 Oxford Street; Millard & Sons, 40 Charterhouse Square; Terry & Soper, Shad Thames; A. A. Campbell, Leadenhall Street, London; Woolley, Sons & Co., 59 Market Street, Manchester; Apothecaries Company, Virginia Street, Glasgow; Boileau & Co., Bride Street, Dublin; McMaster & Co., 121 & 122 Capel Street, Dublin; Clarke & McMullen, Victoria Street, Belfast; D. Galbraith, Londonderry; M. C. Delacre, Parmacie Anglais, Bruxelles. And by all Chemists, in Pots, 1/6, 2/9, and 5/.

COLONIAL AGENTS:—MELBOURNE and WELLINGTON: Felton, Grimwade & Co.; SYDNEY, BRISBANE, and LAUNCESTON: Elliott Bros. & Co.; DUNEDIN and AUCKLAND: Kempthorne, Prosser & Co.; CALCUTTA: Smith, Stanisstreet & Co.

W. H. JAMES, Sole Manufacturer, STANFORD, FARINGDON, BERKS.

Advertised in “Bell's Life” 49 years. Beware of Spurious Imitations.

## NOTICE.

In consequence of the great reduction in all Patent Medicines, the Proprietor has determined to reduce the Wholesale Prices of following Articles, viz.,

|                                  | Per doz.               | Retail. |
|----------------------------------|------------------------|---------|
| TAYLOR'S Condition Balls.....    | 24/-                   | 3/-     |
| Ditto ditto .....                | 12/6                   | 1/9     |
| TAYLOR'S Cond'tion Powders ..... | 18/-                   | 2/6     |
| TAYLOR'S Cough Powders.....      | 18/-                   | 2/6     |
| TAYLOR'S Cleansing Drinks .....  | 5/- (No retail price.) |         |
| TAYLOR'S Foot Rot Mixture.....   | 7/-                    | 1/-     |
| Ditto ditto .....                | 14/-                   | 2/-     |
| Ditto ditto .....                | 28/-                   | 3/6     |

### SUBJECT TO THE USUAL DISCOUNT.

TAYLOR would call especial attention of the Trade to his “Cleansing Drinks,” 5/- per dozen. They are put up in neat Packets, and save the Chemist immense trouble. If preferred, the Drunks can be had without the word “Taylor's” “—on'y” “Cleansing Drunks”—thereby enabling the Chemist to affix his own slip label; but to secure this, when ordering ask for those with the pink label.

### NO RETAIL PRICE AFFIXED.

Prepared by THOMAS TAYLOR, M.R.C.V.S., Derby, and to be had from all the Wholesale Houses, or direct in gross boxes at £3 per gross, less 20 per cent. cash (carriage paid).

# THE WONDERFUL HEALTH RESTORER!

Biliousness.  
Indigestion.  
Weakness.  
Sick Head-Ache.  
Loss of Appetite.

Nervous and  
Dyspeptic  
Affections.  
General Debility  
Spasms,



**AND ALL COMPLAINTS ARISING FROM A DISORDERED LIVER!**

It quickly cures the above disorders of however long standing, **PURIFIES AND CLEANSES THE BLOOD**, and gives to the system a healthy tone. **NO CHANGE OF DIET IS REQUIRED**. Those with weak constitutions may take it with entire confidence, it being adapted to all ages of either sex.

**Sold in Bottles 2s. 9d. each.**

In all Countries this Medicine is invaluable, but more particularly so in the Tropics, India, and all Hot Climates, and we particularly call the attention of Shippers and our friends in the Colonies and Abroad to it.

For Terms apply to the Proprietors,—**TOMLINSON & HAYWARD, Lincoln, England.**

Trade Mark "Hepaticus for Jaundice" and an Hepaticus Plant as illustrated above.

# THE "GLYCERINE DIP"

**IS THE BEST FOR SHEEP AND LAMBS. NON-POISONOUS.**

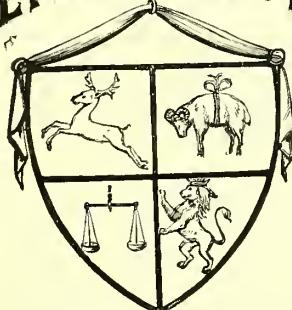
An Infallible PREVENTION and CURE of SCAB, Effectually Eradicates TICKS or FAGS, RED LICE, INSECTS, and all other PARASITES infesting the Skins of Sheep and other Quadrupeds; Destroys MAGGOTS, renders the Skin Healthy after attacks by the FLY; it Cures and Prevents FOOT and MOUTH DISEASE, FOOT-ROT, and other Contagious Diseases; Heals RAW WOUNDS, and is especially useful as a DRESSING for CUTS during and after the process of SHEARING; Greatly Promotes the GROWTH of the WOOL, as also Increasing the Weight and Improving the Quality of the Fleece.

**Can be used with Cold Water.**

The "GLYCERINE DIP" is an excellent Wash for Horses (cures Harness Galls and Sore Backs), Cattle, and Dogs. Killing all Fleas and Curing all kinds of Skin Diseases and Sweetening the Skin.

**GLYCERINE DIP**

None is Genuine unless bearing this  
Trade Mark.



**TRADE MARK.**

*Sold in Tins of 5 lbs. and 10 lbs., and  
Drums of 20, 30, 40, 50, and 100 lbs.*

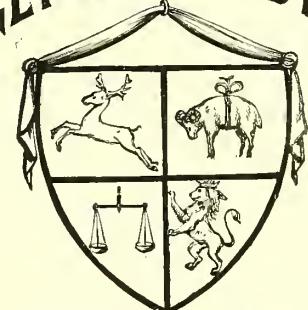
**Price 6d. per lb.**

**1 lb. for every 5 Sheep or 6 Lambs.**

**BEWARE OF IMITATIONS & FALSIFICATIONS.**

**CAUTION.**—We have the sole right and Proprietorship of this Title and Mark, and we shall at once commence actions against any person or persons imitating, or otherwise pirating them, and we beg to caution Merchants and Buyers against such imitations.

**GLYCERINE DIP**



**TRADE MARK.**

**SOLE PROPRIETORS AND MANUFACTURERS,**

**TOMLINSON & HAYWARD, Lincoln, England.**

**TESTIMONIAL** from NICHOLAS LOWE, Esq., ALTAMIRA, Mercedes, Buenos Ayres, October 22, 1880.

To Messrs. MOORE & TUDOR.—In reply to your letter of the 18th, I am thankful for your congratulations on the sale of my wool at £135 per ar. I have sold another lot at £140, and I attribute the success of placing wool worth these prices in market to having cured the flocks of Scab. There are several remedies more or less efficacious and cheap. I use only the "Glycerine Dip" imported by you, and I am well satisfied with the result it gives. I have no objection to your making the fact public. My neighbour, Mr. William Cleary, also uses the "Glycerine Dip," and he obtained a Silver Medal Prize, at the Paris Exhibition of 1878. Several others who use the same Dip are satisfied with it, and promise to continue patronising the "Glycerine Dip."

*Applications for Agencies invited in those countries where we are not already represented.*

# DRUGS, CHEMICALS & PHARMACEUTICAL PREPARATIONS.

## OLDFIELD, PATTINSON & CO.

(Late WILLIAM MATHER).

WHOLESALE AND EXPORT DRUGGISTS,  
37 LONG MILLGATE, MANCHESTER.

**SPECIALITIES.**—Concentrated Infusions, Liquors and Decoctions, Soluble Essences of Ginger Capsicum, Ginger Ale, Lemon, Orange, &c., for the Mineral Water Trade.

## DALMATIAN INSECT FLOWERS AND POWDER.

PRICE LIST CAN BE HAD ON RECEIPT OF BUSINESS CARD.

## SPRATTS PATENT DOG MEDICINES AND SOAP. TASTELESS APERIENT BISCUIT FOR DOGS.

The Field, 28th January, 1882, says:—"The satisfactory results we obtained leave no doubt in our mind as to the value of the invention."

### "LOCURITUM"

(PATENT)

CURES ALL KINDS OF CUTS, BRUISES, AND WOUNDS IN MAN AND ANIMALS.

"SPRATTS PATENT," Bermondsey, S.E., or order through your Wholesale House.

Wholesale Agents for the Soap and Dog Medicines:—Barclay & Sons; Sanger & Sons; Sutton & Co.; F. Newbery & Sons; Lynch & Co., London; Raimes & Co., Edinburgh, York, and Liverpool; Ravensdale Mill Co., Dublin; Woolley, Sons & Co., Manchester; Taylor, Gibson & Co., Newcastle-on-Tyne; Goodall, Backhouse & Co., Leeds; and of all Wholesale Houses.

## BATTLE'S VERMIN KILLER.

{ Mice eat it readily, and Die on the spot.

Has an immense sale, and wherever introduced never fails to give satisfaction.—Mice appear attracted to it as by magic, eat it readily, tumble over, and die on the spot. Rats usually die in their runs.—Parties troubled with Vermin may be cleared at once, either from Stacks, Houses, or Ships.

### TESTIMONIALS.—Thousands might be published.

From Mr. THOMAS COLTON, Agent for Selby.—A friend of mine purchased a Packet of your VERMIN KILLER last night, doubtless its efficacy, to-day he called in to say that he had received a dead rat, which he only used part of a packet.—From Mr. EDWARD SUNDAY, Fletton Mill, I duly received by post the Packet of your VERMIN KILLER, and found it as represented in your advertisement. It speedily destroyed all the mice in my granary. I enclose 2s. for two more Packets.—Leeds, November 5th, 1887.—I have tried BATTLE'S VERMIN KILLER, and have found it most effectual in clearing my premises of LARGE QUANTITIES OF RATS.—THOMAS S. CROSLAND.—Mr. Stead.

Sold in Packets, 3d., 6d., and 1s. each.

SOLE PROPRIETOR:

Mr. J. R. BATTLE, Chemist, Lincoln, England.

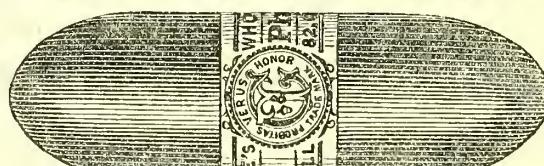
No Chemist or Storekeeper should be without a supply.

## DRUGS, CHEMICALS, PHARMACEUTICAL PREPARATIONS.

### GABRIEL & TROKE,

Wholesale and Export Druggists and Manufacturing Chemists,  
82 CITY ROAD, LONDON.

## GABRIEL & TROKE'S REGISTERED CAPSULED HORSE BALLS.



Manufactured solely by GABRIEL & TROKE,  
WHOLESALE DRUGGISTS, 82 CITY ROAD,  
LONDON.

MANUFACTURERS OF ALL VETERINARY PREPARATIONS, EVERY KIND OF  
VETERINARY INSTRUMENTS AND SUNDRIES.  
SAMPLES AND SPECIAL QUOTATIONS FOR LARGE BUYERS.

The superior advantages of these Balls are obvious. The mass is confined in a hermetically sealed gelatinous Capsule, perfectly harmless, and immediately dissolved in the stomach. The Capsule will not only prevent the Ball from getting dry and hard, but will preserve its purity and power for any reasonable time, and ensure the effectiveness of the medicine—especially when such drugs as Camphor, Ammonia, or Essential

Oils are prescribed. These Capsuled Balls are most convenient and safe and well adapted for export, keeping good in any climate. They are put up in Boxes of 1 dozen each. Capsuled Balls of the most approved formulae on hand, and private recipes faithfully and accurately dispensed. Shipping orders promptly and carefully executed, and at lowest market prices. Price Lists of a very extensive character in the most handy referable style on application.



Established 1877.

THE  
CHEAPEST  
OF ALL.**Condy's Fluid**

Established 1877.

THE  
CHEAPEST  
OF ALL.

|   |                            | RETAIL PRICES.    | TRADE PRICES. |
|---|----------------------------|-------------------|---------------|
|  <b>Condy's Fluid</b> | RED ...                    | ... 1s. size, 4s. | Dozen.        |
|   | ," ...                     | ... 2s. "         | 8s. "         |
|   | ," ...                     | ... 4s. "         | 16s. "        |
|  <b>Condy's Fluid</b> | GREEN ...                  | ... 6d. "         | 3s. 6d. "     |
|   | ," ...                     | ... 1s. "         | 7s. "         |
|  <b>CONDY'S</b>       | ," ...                     | ... 2s. "         | 14s. "        |
|   | CONDY'S OZONISED WATER ... | ... 2s. "         | 8s. "         |
| "   | "                          | ... 3s. 6d. "     | 16s. "        |

OF ALL WHOLESALE HOUSES. WHOLESALE DISCOUNTS ON APPLICATION.

 **R. CONDY & CO.,** DISINFECTING FLUID MAKERS,  
FORD'S FOLLY, LONDON, S.W.

**CHLORIDE OF LIME.**IN WATERPROOF, AIR-TIGHT, & ODOURLESS PACKAGES. *Protected by Royal Letters Patent.*

Is neat and clean, and convenient for use. Being air-tight and odourless, retains its strength unimpaired.

IT IS ADMIRABLY ADAPTED FOR EXPORT, AND WILL

KEEP FOR YEARS IN ANY CLIMATE. Per Box.

|   |     |
|---|-----|
| 24-lb. BOXES, containing 24 1-lb. Packages      | 6/6 |
| Ditto ditto 48 1/2-lb. ditto                    | 7/0 |
| Ditto ditto 96 1/2-lb. ditto                    | 8/0 |
| Ditto ditto 1-lb., 1/2-lb., & 1/4-lb., assorted | 7/3 |
| Ditto ditto 1 Gross Penny Packages              | 8/0 |

|   |      |
|---|------|
| 50-lb. CASES, containing 50 1-lb. Packages      | 13/0 |
| Ditto ditto 10 5-lb. ditto                      | 13/0 |
| Ditto ditto 100 1/2-lb. ditto                   | 14/0 |
| Ditto ditto 200 1/2-lb. ditto                   | 16/0 |
| Ditto ditto 1-lb., 1/2-lb., & 1/4-lb., assorted | 14/6 |

Also in 1 cwt. and 1/2-cwt. Cases, to meet the requirements of large buyers and the Export Trade.

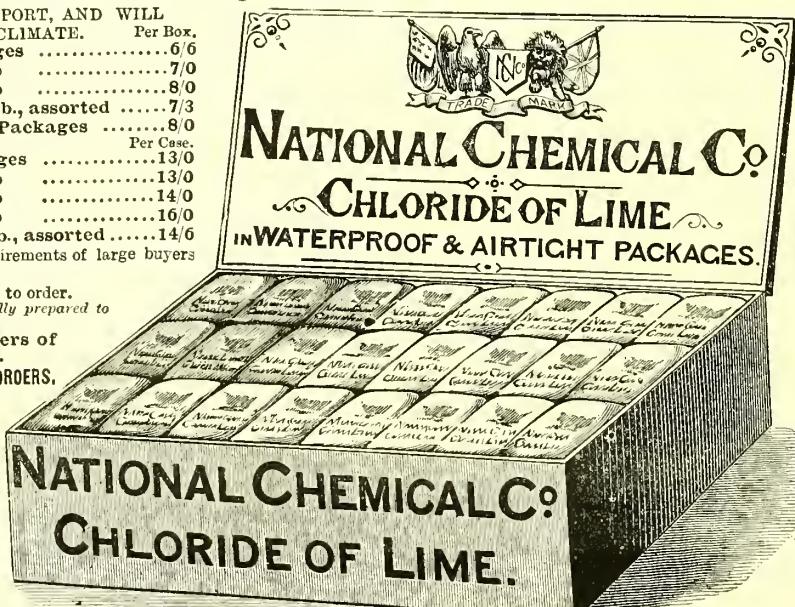
Packed also in Jars, Bottles, Casks, and Cases to order. The Patented Composition for Export Orders is specially prepared to bear any Climate.

A Liberal Discount allowed on all Orders of 5 Cases or 10 Boxes and upwards.

SPECIAL QUOTATIONS FOR CONTRACT OR LARGE ORDERS.

## WHOLESALE AGENTS.

London : S. Maw, Son & Thompson ; Barclay & Sons ; J. Newbery & Sons ; W. Edwards & Son ; J. Sanger & Son ; Lynch & Co. ; Harvey, Shepherd & Co. ; Evans, Lescher & Webb ; Burgoine, Burbridge & Co. ; Dury, Yates & Routledge ; Hovenden & Sons ; Wright, Layman & Umney ; Hearon, Squire & Francis ; Hodgkinson, Stead & Treacher. Liverpool : Evans, Sons & Co. ; Manchester : James Wooley, Sons & Co. ; Birmingham : Southall Bros. & Barclay. York : Raimes & Co. Edinburgh : Raimes, Blanchard & Co.



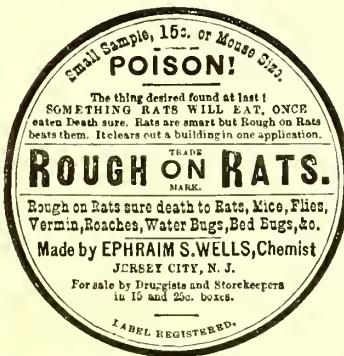
A SAMPLE BOX OR CASE CAN BE HAD FROM ANY OF OUR WHOLESALE AGENTS OR ANY LONDON, OR COUNTRY WHOLESALE DRUGGISTS. ALL GOODS DELIVERED FREE IN LONDON.

**NATIONAL CHEMICAL CO.,** 29 Suffolk Grove, Gt. Suffolk St., Southwark, S.E.

Clears out Rats, Mice,  
Roaches, Flies, Ants, Mosquitoes,



Bed-Bugs, Insects, Skunk, Weasel,  
Beetles, and all Vermin.

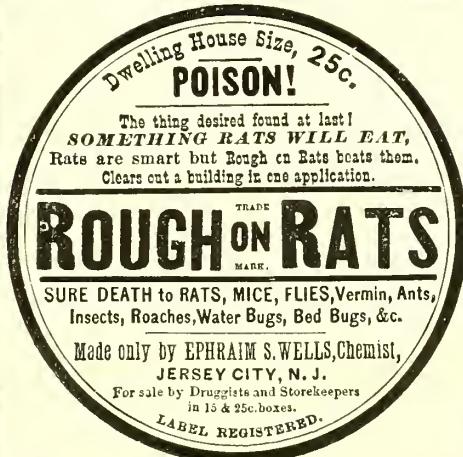


7½d.; 4s. 3d. doz.

LOOK OUT  
For Imitations.

SEND FOR  
Advertising Matter—  
your Name on.

BUY OF  
Your Wholesale  
Druggist.



1s.; 6s. 5d. doz.

No loss by breakage,  
leakage, or evaporation.

Will keep a thousand  
years in any climate.

No Grease to soil the  
drawers or other goods.

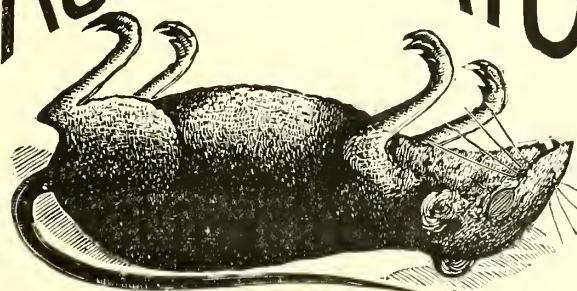
Used for Insects, Bugs,  
&c., as well as for Rats  
and Mice.

Always does the work.

Lowest price of its  
kind.

Pays better than any  
other.

ADVANTAGES OF  
**ROUGH ON RATS**



CAREFUL  
DRUGGISTS,

Who do not sell arsenic  
and strychnine indiscriminately, and yet do  
not wish to incur displeasure of Patrons by  
absolute refusal, can offer

7½d. boxes of

"ROUGH ON RATS"  
as a compromise sub-  
stitute.

MAY BE OBTAINED FROM THE PROPRIETOR,

**E. S. WELLS, Jersey City, New Jersey, U.S.A.;**

*And all Wholesale Druggists and Drug Sundrymen throughout Great Britain.*

THE ONLY PERFECT ENEMA OBTAINABLE.

# INGRAM'S IMPROVED HIGGINSON ENEMA AND SYRINGE APPARATUS

(BY ROYAL LETTERS PATENT).

Made without Seams or Ribs by our Patent Process of dipping in a solution of India Rubber, thus adding great strength and durability.

NONE GENUINE UNLESS STAMPED WITH NO. OF PATENT, 1474.

All Imitations may be  
detected by the Ribs on the  
Surface, and are always  
liable to split.

**CAUTION.**—The only  
Enema made without  
Ribs.



WARRANTED NOT TO SPLIT.

A.—Metal Pin Valve.

**INGRAM'S IMPROVED PATENT SEAMLESS ENEMA** is perfectly smooth on the surface, will not become hard or sticky, will not leak, and will not admit air while injecting or refilling. Specially prepared to resist the heat of tropical countries.

The great superiority of **INGRAM'S IMPROVED PATENT SEAMLESS ENEMA** over all others has given rise to VARIOUS IMITATIONS, and it has become imperative that the Patentees should, in order to PREVENT DECEPTION, explain the PROCESS OF MANUFACTURE OF THEIR ENEMA and the MODE OF MANUFACTURE OF IMITATIONS thereof, as they have UNDENIABLE PROOF that INFERIOR ENEMAS are positively BEING SOLD as their "ADVERTISED" PATENT SEAMLESS ENEMA.

**INGRAM'S IMPROVED PATENT SEAMLESS ENEMA** is made by a NEW PATENT PROCESS, viz.: By repeated dipping in a solution of India Rubber until the required substance is attained. This process adds greatly to its STRENGTH and DURABILITY, and, at the same time, dispenses WITH ALL SEAMS, which, as is well known, are weak points in an Enema. This improved mode of manufacture (the result of long study and experience) enables the Patentees to produce a PERFECT ENEMA WITHOUT SEAMS, thus overcoming the great fault to be found in ALL other Enemas, viz.: SPLITTING AND LEAKING, which has always been a source of trouble.

**INGRAM'S IMPROVED PATENT SEAMLESS ENEMA** is fitted with IMPROVED VALVES, which prevent the admission of air with the fluid and CAN at any time BE REPAIRED, if necessary.

**CAUTION.**—Imitations of **INGRAM'S IMPROVED PATENT SEAMLESS ENEMA** are made of several pieces of Sheet India Rubber, which are cemented together and shaped in a mould, **THUS PRODUCING RIBS ON THE SURFACE**, and ENEMAS SO MANUFACTURED ARE ALWAYS LIABLE TO SPLIT AND LEAK AT THE SEAMS, AND **THUS TO BECOME QUITE USELESS**.

**INGRAM'S IMPROVED PATENT SEAMLESS ENEMA** may be distinguished from ALL IMITATIONS by its ENTIRE FREEDOM FROM RIBS OF ANY DESCRIPTION on its surface, and by having an IMPROVED METAL PIN VALVE at the suction end A; and it is acknowledged to be the ONLY PERFECT ENEMA OBTAINABLE.

Patented in England, No. 1474, April 12, 1878; in France, No. 126,909, October 11, 1878; and in America, No. 212,939, March 4, 1879.

To be obtained of all *Surgical Instrument Makers, Druggists' Sundriesmen, Chemists and Druggists*, in the three following qualities:—

No. 1a. Highly Polished, in Red, Green, Blue, Black, or White.

No. 1b. Unpolished, in Red, Green, Blue, Black, or White.

No. 2. Unpolished, in Drab only.

ORIGINALITY AND RELIABILITY

RECEIVED HIGHEST AWARDS—MEDALS AND DIPLOMAS OVER  
ALL EUROPEAN AND AMERICAN COMPETITORS.PHILADELPHIA, 1876,  
MELBOURNE, 1880,  
NEW YORK, 1881,PARIS, 1878,  
NEW YORK, 1880,  
ATLANTA, 1881,NEW YORK, 1879,  
MATANZAS, 1881,  
CHARLESTON, 1882.

## SEABURY &amp; JOHNSON,

MANUFACTURERS OF

India Rubber, Medicinal, Adhesive,  
Bunion, Corn, Court,

## PLASTERS

Kid, Leather, Mustard, Spread,  
Pharmaceutical and SurgicalOf every description, in the most approved form. Also, Absorbent, Borated, Salicylated and  
Carbolated Cotton, Antiseptic Gauze, Bandages, Cotton Wool, Gutta Percha Tissue,  
Lint, Oil Silk and Muslin, and every variety of Surgical and Antiseptic Dressings.

SPECIALTY:—Pharmacopœia &amp; Surgical Plasters, in India Rubber Combination, Porous &amp; Spread.

Office &amp; Salesroom, 1 &amp; 2 Australian Ave., London, E. C., England.

## TERMS FOR 1882.

MONTHLY SETTLEMENTS. ONE PER CENT. FOR CASH WILL BE ALLOWED, PROVIDED BILLS ARE REMITTED FOR WITHIN TEN  
DAYS FROM DATE OF SHIPMENT, NOT OTHERWISE.DISCOUNTS.—*Goods to be selected from our List at pleasure.*Orders amounting to £25, nett, will be subject to 20 per cent. discount.  
" " 10, " " 15 " "  
" " 5, " " 10 " "Orders under £5, nett, long prices will be charged without discount.  
CARRIAGE ALLOWED OR PREPAID ON £25, NETT, ORDERS ONLY.

## EVERY ARTICLE WARRANTED.

Pharmacopœia & Medicinal India  
Rubber Porous Plasters.

Packed two dozen in a box. Size, 5x7½ inches.

|                  |            | £ s. d. |
|------------------|------------|---------|
| Aconite.....     | per gross, | 3 0 0   |
| Arnica.....      | " 2        | 8 0     |
| Belladonna.....  | " 2        | 14 0    |
| Capiscum.....    | " 2        | 0 0     |
| Iron.....        | " 2        | 8 0     |
| Opium.....       | " 3        | 12 0    |
| Poor Man's...    | " 2        | 8 0     |
| Strengthening... | " 1        | 10 0    |
| Witch Hazel..... | " 3        | 0 0     |

Special Formula made to order. A full line of Plain  
Spread and Porous at same rates.

## YARD ROLLS

Pharmacopœia & Medicinal Plas-  
ters, in Rubber Combination.

Porous or Plain Spread, size, 7 in. wide by 1 yard long.

|                             |            | £ s. d. |
|-----------------------------|------------|---------|
| Aconite and Belladonna..... | per dozen, | 1 16 0  |
| Belladonna.....             | " 1        | 7 6     |
| Blister, Cantharidal.....   | " 1        | 7 6     |
| Capiscum.....               | " 1        | 7 6     |
| Mercurial.....              | " 1        | 16 0    |
| Opium.....                  | " 1        | 16 0    |
| Pitch Burgundy.....         | " 1        | 7 6     |
| Roborans.....               | " 1        | 7 6     |
| Thapsia.....                | " 1        | 7 6     |
| Warming.....                | " 1        | 7 6     |

A full line, Plain and Porous.

## BREAST PLASTERS

Belladonna, Lead & Phytolacca Decandra,  
SEPARATELY OR IN COMBINATION.One dozen in a box. 6 & 7 inches in diameter, Porous and  
Plain Spread.

## Mead's Adhesive Plaster,

PLIABLE AND ANTISEPTIC.

5 yd. rolls, 14 inches wide.....per 5 yd. roll, 5s. 0d.  
1 yd. rolls, 7 inches wide.....per dozen, 14 0

May also be had in Spools, ½, 1, 2 and 3 inches wide.

## SPECIAL NOTICE.

Our New Catalogue of Specialties is ready for delivery, and contains a complete assort-  
ment of our preparations. A copy will be sent to any Chemist on application to  
Yours very truly,

SEABURY &amp; JOHNSON, 1 and 2 Australian Avenue, London, E. C.

QUALITY IS OF FIRST IMPORTANCE

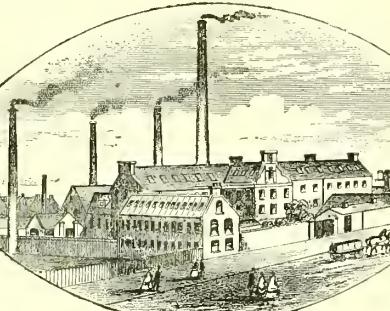
WHOLESALE  
AND**S. R. STEWART & CO.**EXPORT  
ONLY.ABERDEEN COMB WORKS,  
**ABERDEEN.**London, 1862.  
Vienna, 1873.

AWARDS AT INTERNATIONAL EXHIBITIONS.

MELBOURNE, 1881.

Paris, 1878.  
Sydney, 1880.

GOLD MEDAL AT ADELAIDE, 1881.

ORDERS SOLICITED  
THROUGH MERCHANTS AND  
SHIPPING HOUSES,AND WHOLESALE  
BUYERS THROUHOUT  
THE WORLD.

MANUFACTURERS OF ALL KINDS OF

**COMBS, RHINOCEROS HORN CUPS AND COMBS, SHOEHORNS,  
PAPER CUTTERS AND FOLDERS,  
DRUGGISTS' SPATULAS, SCOOPS AND SPOONS, FRUIT KNIVES, &c.**

*The following are some Notices of our Showcase at the HORNERS' EXHIBITION, held at the Mansion House on October 18, 19, and 20.*

**THE TIMES, October 19.**

"Messrs. S. R. Stewart & Co., of the Aberdeen Comb Works, send, but not in competition, a case illustrative of machine-made horn work and imitation tortoise shell, picnic cups entirely of horn, salad spoons, rhinoceros horn fans and napkin rings, and one of the fox-horns which used to be made for the Navy before the belows-horn came into use."

**THE MORNING ADVERTISER, October 19.**

"Horn proves itself to be a successful substitute for more than one substance which much exceeds it in cost while differing little from it in appearance. At the stand of Messrs. S. R. Stewart & Co., for instance, some specimens of Spanish head dress combs may be seen hardly distinguishable from tortoise shell, but about five times less expensive. In the same stand the closeness with which ivory can be imitated is shown by articles in pure white horn, and in what is called 'clear' horn there are fans, holster-cups, card-baskets, cigar-holders, executed with the greatest delicacy and thoroughly durable. At their works at Aberdeen Messrs. Stewart & Co. cut up annually four millions of horns. The purposes to which horn-work may be applied may be judged from a glance at the nature of their business relations. Four tons of horn points are sent to Sheffield every week for use as knife handles, &c., and to Hamburg for conversion into pipe mouthpieces; and large quantities of the waste horn are converted into a manure, of which the firm are the sole proprietors, and which Dr. Voelcker recommends for the growth of grapes, strawberries, hops, and fine blooms, and fruit generally. Paper-cutters, vases, salad spoons, vinaigrettes, are among the miscellaneous articles exhibited in Messrs. Stewart & Co.'s large collection."

**THE DAILY NEWS, October 18.**

"What may be done with horn nowadays is illustrated by some magnificent trade collections. The lesson which is now being learned in every industry of the value of the waste material in manufacture appears to have been applied to some purpose in the horn trade, for Messrs. S. R. Stewart & Co., of the extensive Aberdeen Comb Works, submit a specimen of Kerlonik, which contains, according to Dr. Voelcker, 18 per cent. of ammonium, and is a valuable manure. In Messrs. Stewart's case there is a magnificent display of imitation tortoise-shell high back-hair combs. Frolicsome fashion has for the present left this article on the hands of horn manufacturers for exhibition only as a sample of trade art, but in the same case there are to be seen many other applications of the comb-maker's skill."

**THE COLONIES AND INDIA, October 20.**

"Among the trade exhibitors the palm in point of prominence, extent, and importance of display must be accorded to Messrs. S. R. Stewart & Co., of the Aberdeen Comb Works, and Queen, Victoria Street, London. It is worthy of note that the showcase—in itself a handsome feature—in which the goods were displayed has travelled from Paris to the Antipodes, and from the 'Island Continent' back again to this country, having in its wanderings done the firm good yeoman's service, for at its resting-places—Paris, Sydney, Melbourne, Adelaide—it took first prizes. The four sides or compartments of the cases were devoted to as many different classes of goods. In the first were shown clear and rhinoceros horn manufactures, consisting of fans, card-baskets, combs, &c.; in the second, buffalo-horn productions, including dressing-combs, shoeing-horns, vinaigrettes, snuff-boxes, spoons, drinking-cups, vases, &c.; in the third, imitation tortoise-shell goods, embracing Spanish braid-combs in great and artistic variety; and in the fourth pure white-bone articles—combs, &c. This last named variety of horn—which, by the way, is very rare—comes from Australia, and when skilfully treated may be readily mistaken for ivory. While, as will be seen from the foregoing description, combs are the leading manufacture at the Aberdeen Works, a wonderful variety of other goods are also turned out, each being in its way equally well worthy of notice. At the corners of the case were suspended specimens of lanthorn leaves, used instead of glass; also samples of the firm's marvellous imitation tortoise-shell, together with an admirably-designed hunting-horn."

**THE HORNERS' COMPANY.**

"The Court of Assistants in receiving the awards of the judges desire to call special attention to the exhibits of Messrs. S. R. Stewart & Co., of Aberdeen, and 126 Queen Victoria Street, E.C. The firm did not compete for prizes, and Mr. David Stewart gave his very valuable assistance as one of the judges. Amongst their productions may be noticed the fine clear horn, deprived of all adipose matter, rendering it nearly as transparent as glass; whilst the imitation tortoise-shell, for high back combs, used for supporting the black lace mantilles worn by the ladies in Spain and South America, deserve a special word. They are most beautifully carved in geometrical designs, and are themselves works of art. The dark huffalo, ox and cow horn for shoe horns and drinking-cups, and the pure white dressing-combs (in imitation of ivory) are also worthy of inspection. The case exhibited by this firm is altogether an interesting one, and had they competed for prizes they would undoubtedly have met a well-merited success."

MANUFACTORY AND PRINCIPAL WAREHOUSE:—

**ABERDEEN COMB WORKS, ABERDEEN, SCOTLAND.**

BRANCHES:—126 Queen Victoria Street, LONDON, E.C.; and 14 Carr's Lane, BIRMINGHAM.